AUGUST, 1928 25 CENTS

AMERICAN PHOTOGRAPHY

Published Monthly — Boston, Mass.

The American Annual of Photography

The contents of the Annual for 1928 are diversified in nature, offering, we hope, something attractive to every photographer. The principal contents are as follows:

PRINTING ON DEVELOPMENT PAPERS, by Dr. B. T. J. Glover.

This well-known expert follows up his article on development in last year's annual with full instructions for making perfect prints from your negatives.

THE USE OF LARGE APERTURE LENSES, by Dr. Hans Böhm of Berlin.

A discussion of the use of modern lenses working at speeds up to *f*:1.5, especially for exposures outdoors and in the theatre at night. Illustrated by many wonderful pictures by the author.

ARTIST OR PHOTOGRAPHER, by Nicholas Ház, A. R. P. S.

A forecast of the artistic possibilities of photography.

COLOR PLATE PRACTICE, by Lyman Chalkley, Jr., Ph. D.

A thorough and comprehensive article giving the exact methods to use in every stage of the work to produce perfect Autochrome or Agfa color pictures. Not a résumé of manufacturers' methods, but based on intensive and scientific study of the processes.

THE JOYS OF PHOTOGRAPHY, by J. Carroll Tobias

Ways in which the amateur may increase his interest in his hobby.

STARTING THE CINE AMATEUR OFF RIGHT, by Karl A. Barleben, Jr , S. M. P. E.

An interesting article giving the fundamental methods of work for producing satisfactory amateur motion pictures.

OUR ILLUSTRATIONS, by Frank R. Fraprie, F. R. P. S.

Some words of appreciation and constructive criticism on the pictorial contents of the Annual.

THE AIMS AND TOOLS OF BROMOIL PRINTING, by Dr. Emil Mayer, F. R. P. S.

In this article, translated by Joseph M. Bing, C. E., Dr. Mayer tells of the possibilities of bromoil work.

WATER, by E. J. Wall, F. C. S., F. R. P. S.

Many of us do not think of water as a chemical, but here Professor Wall tells what an important chemical it is in photography and how to use it to the best advantage.

AMATEUR MOVIES AND STILL PHOTOGRAPHY, by A. H. Beardsley, Editor of "Photo-Era."

The advantages of movies compared to still pictures and how both are necessary to the all round photographer.

PHOTOGRAPHIC SENSITIVITY AND THE LATENT IMAGE, by E. P. Wightman, Ph. D.

A review of our present day knowledge on this fascinating question.

THE MOUNTING OF PICTORIAL PHOTOGRAPHS, by Frank R. Fraprie, F. R. P. S.

How pictures are mounted today for exhibitions.

CHOOSING YOUR CAMERA, by F. E. Billett

Sound advice on an important subject.

HYPERSENSITIZING PLATES, by E. J. Wall, F. C. S., F. R. P. S.

Practical directions for getting greatly increased speeds from commercial plates.

RUINS, by Jos. O. Hickox

What our junk negatives can teach us.

CONCERNING REFLECTIONS, by E. K. Emsley

How to photograph shiny objects.

PHOTOGRAPHY THROUGH THE MICROSCOPE, by E. P. Wightman and A. P. H. Trivelli.

A long and fully illustrated article showing the wonders of photography through the microscope and ultra microscope, still and movies.

PHOTOGRAPHIC REVIEW, by E. J. Wall, F. C. S., F. R. P. S.

A detailed summary of the advance in photography in all branches in the past year.

WHO'S WHO IN PICTORIAL PHOTOGRAPHY

The addresses of the pictorial photographers of the world with their exhibition standing in the last two years.

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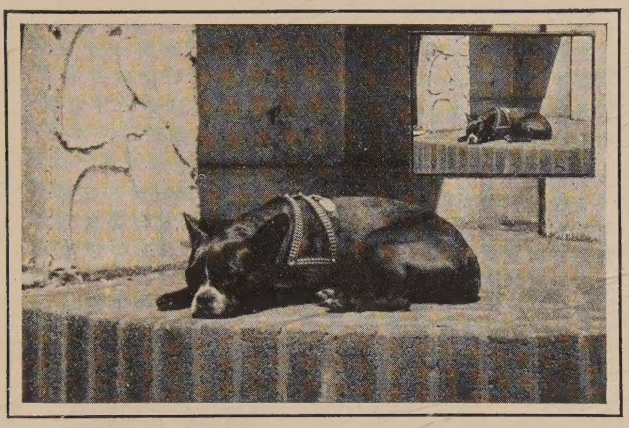

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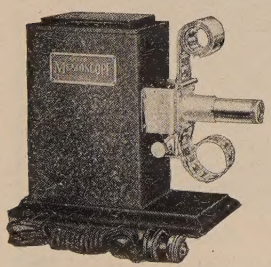

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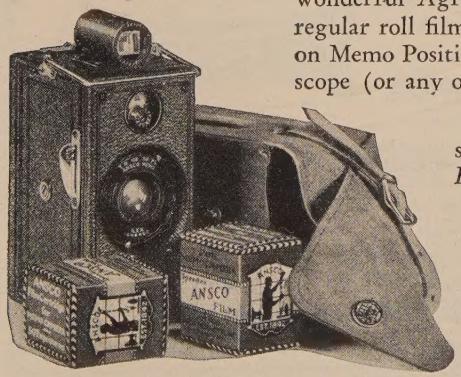

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AUGUST, 1928

VOL. XXII, No. 8

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Fig. 1

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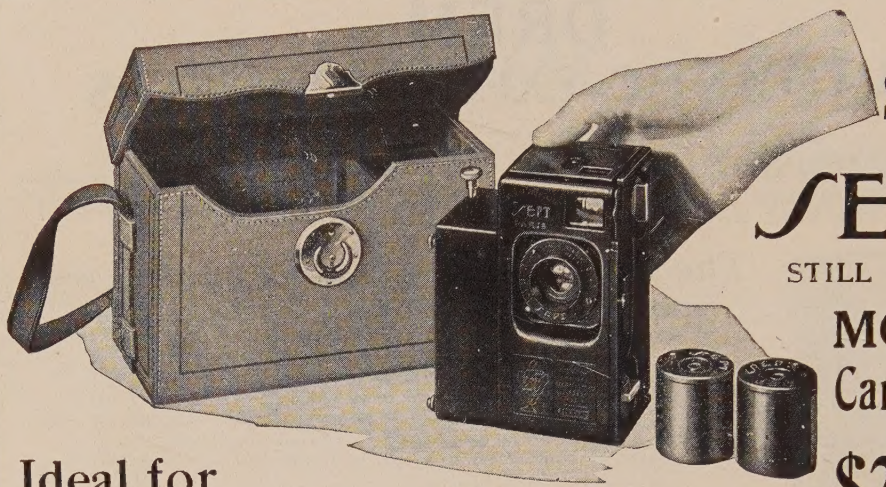

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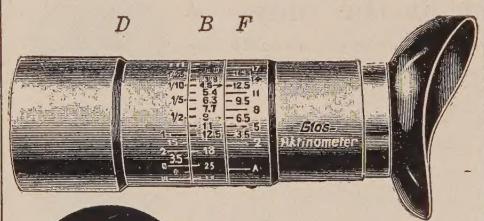

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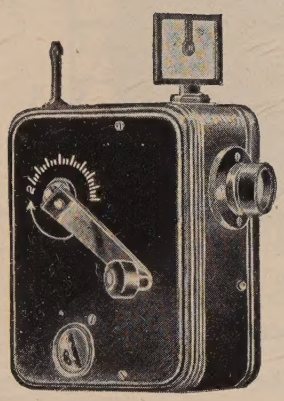

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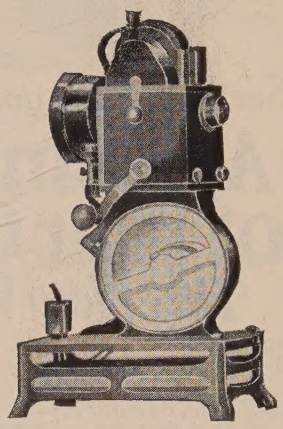

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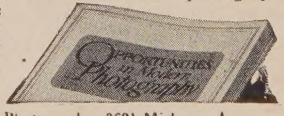

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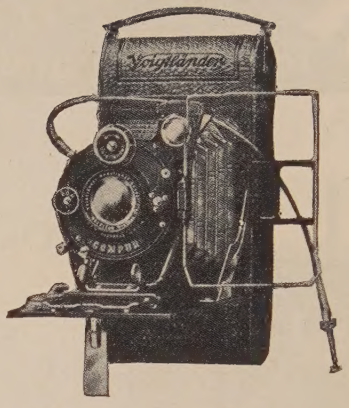

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AMERICAN PHOTOGRAPHY

Vol. XXII BOSTON, MASS., AUGUST, 1928 No. 8

OUR EIGHTH ANNUAL COMPETITION

F. R. FRAPRIE, F. R. P. S.

OUR annual competition this year, the eighth of the series, brought to us a selection of prints from all over the world which far surpassed in interest and beauty even the wonderful collections of previous years. In order to diminish to a certain extent the number of prints which the judges might have to handle, we placed upon the entry blank this year but four spaces instead of six, which has been the case in previous years. Consequently the number of entries which each exhibitor submitted averaged only two-thirds of the previous numbers. In spite of this fact, however, we had as many prints to judge, for three hundred and ninety-six contributors submitted thirteen hundred and ninety-seven prints. As the number of awards does not greatly exceed one hundred, almost three-quarters of the exhibitors could not be recognized by the judges and only about seven per cent of the prints were in the award list. This is a far lower proportion of accepted prints than in the case of any of the first-class salons, and not only were the judges reluctantly obliged to exclude prints which had been exhibited over and over again but they were unable to recognize the work of a great number of entrants whose names are to be found in the catalogs of many exhibitions.

The quality of the submitted prints was unusually high and only an extremely small number of makers sent in work which was manifestly out of place. The judges encountered thrill after thrill as they went over the prints for the preliminary weeding out. The general impression of the work was that photography is proceeding with a saner and sounder outlook than for many years. Extravagances of all kinds were rare. The search for pure pattern, intended for decoration pure and simple, seems to have come almost to an end. More and more the photographer realizes that his medium is light and that with the pencils of light he can paint pictures of beauty on the framework of the most commonplace material. There is perhaps a tendency in certain quarters to turn brightness into gloom and to consider flatness and low tonality as the proper rendering of a mood of melancholy. This so easily degenerates into muddiness that it is perhaps a tendency to be avoided. Such pictures did not meet with much favor in the case of our judges, as a rule. A very considerable number of bromoil transfers were entered. The judges felt that this medium was a dangerous one, because of the difficulty which many users have in transferring the finer nuances which undoubtedly existed in the bromide and the bromoil. When the photographer has a sufficient command of his

technic to overcome this difficulty, the results are of surpassing beauty, but an overwhelming majority of the bromoil transfers left the impression of a failure to record what the negative expressed and what the maker desired.

The judges were Leonard Craske, Herbert Bryant Turner and the writer. It may not be amiss to say something of the two former. Mr. Craske, though a photographer for many years and an expert in both bromoil and screen-plate color work, is best known to the world at large as a sculptor. His statue *The Gloucester Fisherman,* which stands on the Esplanade at the head of Gloucester Harbor, is world-famous through its manifold reproduction in the form of photographs and book ends. Because of his wide experience in both photography and art he is an excellent pictorial critic. Mr. Turner is a past president of the Boston Union Camera Club and an enthusiastic photographer for many years. During the war he had charge of the historical record work about Boston for the United States government. He is also an author and a forthcoming book of his, describing his trips in search of the picturesque in France, will be illustrated with many of his beautiful photographs of out-of-the-way places.

The judging itself was a tedious process because of the excellence of the work. The first winnowing left in between three and four hundred prints which were unanimously passed by the judges, and the reduction of these to the final number of one hundred and seventeen, and the selection of the prizes, required many hours of careful consideration and repeated going over the prints. We hope that our readers will feel as impressed with the strength and charm of the prize winners as were the judges. The awards were as follows:

FIRST PRIZE

1 Mario F. Bucovich, Berlin, Germany ..... *Frau Lilli Darvas*

SECOND PRIZE

2 William Mortensen, Hollywood, California ..... *Meditation*

THIRD PRIZE

3 J. Ortiz Echague, Madrid, Spain ..... *Despues de Misa*

FOURTH PRIZE

4 C. B. Seifert, Toledo, Ohio ..... *Nude Study*

FIFTH PRIZE

5 Erich Angenendt, Dortmund, Germany ..... *Ca d 'Oro Palace, Venice*
6 Hugh M. Bell, F. Z. S., London, England ..... *The Penguins' Pool*
7 H. Berssenbrugge, The Hague, Holland ..... *Dinant*
8 Achille Bologna, Torino, Italy ..... *A Solitary Path*
9 Gordon H. Coster, Baltimore, Md. ..... *The Silver Mask*
10 S. Grimshaw, Manchester, England ..... *February Fill Dyke*
11 S. K. Katsu, Los Angeles, California ..... *Sunlight*
12 Rudolf Koppitz, Vienna, Austria ..... *Mother*
13 Ernesto Moreschi, Milano, Italy ..... *Return of the Fishing Fleet*
14 Ranald Rigby, F. R. P. S., St. Annes-on-the-Sea, England ..... *Great American Egrets*

HONORABLE MENTIONS

15 John Allen, Philadelphia, Pennsylvania ..... *River's Edge, Pittsburgh*
16 Y. Aroslavtsev, Moscow, U. S. S. R. ..... *The Bird of Night*
17 Carlo Baravalle, Torino, Italy ..... *On the Alps*
18 Dr. Georg Bauer, Vienna, Austria ..... *At the Window*
19 Erich Böhm, Cottbus, Germany ..... *Nude*
20 Edwin Bolan, Hinsdale, Illinois ..... *Some Day*
21 J. Em. Borrenbergen, Antwerp, Belgium ..... *Morning in Bruges*
22 Ellis M. Brown, Reading, Pennsylvania ..... *The Toiler's Threshold*
23 Marianne Baroness Chiari, Vienna, Austria ..... *Venice*
24 Will Connell, Los Angeles, California ..... *Portrait*
25 H. G. Cox, New Westminster, B. C., Canada ..... *Fun Afloat*
26 David and Eleanor Craig, Pittsburgh, Pennsylvania ..... *From a Breton Lighthouse*
27 H. Richardson Cremer, Upper Montclair, N. J. ..... *Dawn*

FRAU LILLI DARVAS

MARIO BUCOVICH

First Prize, American Photography Eighth Annual Competition

28 Frederick R. Dapprich, Los Angeles, California ..... *Edward Weston*
29 Carl C. Distler, Newport, Kentucky ..... *Still Life*
30 F. Drtikol, Prague, Czechoslovakia ..... *By the Table*
31 P. Dubreuil, Brussels, Belgium ..... *Lights of the Mind*
32 Dan Dunlop, Motherwell, Scotland ..... *The Harbor, Eyemouth*
33 Georges Eremin, Moscow, U. S. S. R. ..... *Avinda*
34 Hugo Erfurth, Dresden, Germany ..... *Portrait of a Girl*
35 Louis Fleckenstein, Long Beach, California ..... *The South Wind*
36 Arnold Genthe, New York City ..... *Ruth St. Denis*
37 Laura Gilpin, Colorado Springs, Colorado ..... *Narcissus*
38 Caroline Goldstein, New York City ..... *A Chip of New York*
39 Conte Cav. E. Graziadei, Venice, Italy ..... *Snow on the Grand Canal*
40 Paul Guillot, Sfax, Tunisia ..... *Pilgrims*
41 Henry Hall, Arlington, New Jersey ..... *From Foreign Lands*
42 Forman Hanna, Globe, Arizona ..... *Reverie*
43 Raymond E. Hanson, Melrose, Mass. ..... *The Fairbanks House*
44 Walter Hazelton, Omaha, Nebraska ..... *Over the Ice*
45 George Henry High, Chicago, Ill. ..... *Joy*
46 P. Y. Homma, Los Angeles, Calif. ..... *Light and Shadow*
47 S. Ivanoff-Allilouyeff, Moscow, U. S. S. R. ..... *Winter Dress*
48 Riso Itano, Los Angeles, Calif. ..... *Evening Light*
49 Shizimi Izuo, Los Angeles, Calif. ..... *Labor*
50 Dorothy Jarvis, Brookline, Mass. ..... *Nancy*
51 U. Stephen Johnson, Greenfield, Mass. ..... *Still Life, Bowls*
52 Harold N. Jones, Melbourne, Australia ..... *Impending Storm*
53 Hisao E. Kimura, Los Angeles, Calif. ..... *Ayumi*
54 Hiromu Kira, Los Angeles, Calif. ..... *An Arrangement*
55 F. A. Kunishige, Seattle, Wash. ..... *The Designer*
56 Horace A. Latimer, Boston, Mass. ..... *Evening*
57 Jas. S. Lawshe, Los Angeles, Calif. ..... *On Time*
58 Alexander Leventon, Rochester, N. Y. ..... *Prof. Flavien Van Derveken*
59 L. H. Longwell, Chicago, Ill. ..... *Beach Haulers*
60 Harold Lönnquist, Gefle, Sweden ..... *Sisters*
61 Harrison MacDonald, Roslindale, Mass. ..... *Winter Traceries*
62 J. H. MacKay, Toronto, Ont., Canada ..... *Lunar Fantasy*
63 Charles J. MacManus, Philadelphia, Pa. ..... *Triangles*
64 J. D. McCauley, Los Angeles, Calif. ..... *Venetian Waterway*
65 D. C. Millard, Kansas City, Mo. ..... *Reminiscence of Riley*
66 Robert R. Miller, Dallas, Texas ..... *On the Stair*
67 M. K. Minota, Los Angeles, Calif. ..... *Light and Shade*
68 Clayton W. Mogg, Chicago, Ill. ..... *Portrait*
69 S. Nakagawa, Los Angeles, Calif. ..... *Three Roofs*
70 Kentaro Nakamura, Los Angeles, Calif. ..... *Study of a Garden*
71 Elizabeth Noell, The Hague, Holland ..... *Bitte recht freundlich!*
72 Nikolai Nylander, Tallinn, Esthonia ..... *Evening in the Harbor*
73 Agnes V. O'Brien, New York City ..... *Patient—for a Killarney Donkey*
74 Kichiji Ohara, Los Angeles, Calif. ..... *Evening Light*
75 O. W. Olson, Chicago, Ill. ..... *Beauty*
76 K. Ota, Pasadena, Calif. ..... *The Hiina*
77 T. Otomo, Kobe, Japan ..... *A Meeting of Sparrows*
78 A. J. Pandian, Tanjore, India ..... *Conquering the Surf*
79 Harold T. Parish, Birmingham, England ..... *A Shy Boy*
80 Raymond Paschael, Antwerp, Belgium ..... *Winter Sun*
81 M. K. Penrice, Brockenhurst, England ..... *The Lion*
82 Franz Pfennigbauer, Vienna, Austria ..... *The First Step*
83 Amost Pikart, Prague, Czechoslovakia ..... *Monumental Landscape*
84 C. Robert Prevost, Baltimore, Md. ..... *Lunch for Three*
85 Godfrey Priester, Vineyard Haven, Mass. ..... *Four Score and Seven*
86 Jane Reece, Dayton, Ohio ..... *Children in Costume*
87 Frank E. Rich, Chicago, Ill. ..... *The Welder*
88 W. J. Roberts, Luton, England ..... *The Mill Pool*
89 L. M. A. Roy, Henniker, N. H. ..... *Writing*
90 M. O. Rudolf, Davos-Wolfgang, Switzerland ..... *Traders*
91 Valentino Sarra, Astoria, N. Y. ..... *J. Hudson*
92 C. F. F. Schaepman, Zwolle, Holland ..... *Little But Mighty*
93 Basil Schon, Walmer, England ..... *Lime House Reach, Rochester*
94 E. H. Semi, Los Angeles, Calif. ..... *The Peaceful Garden*
95 T. K. Shindo, Los Angeles, Calf. ..... *Somewhere in Japan*
96 Henry Sill, Cleveland, Ohio ..... *The Temple*
97 John Skara, Chicago, Ill. ..... *Information*
98 Kenneth Dudley Smith, Port Richmond, N. Y. ..... *Off the Spanish Main*
99 Ralph E. Smith, San Francisco, Calif. ..... *Xzana Sholly*

MEDITATION
WILLIAM MORTENSEN
Second Prize, American Photography Eighth Annual Competition

100 WERNER H. STORP, Düsseldorf, Germany ..... *St. Leonard*
101 JOSEF SUDEK, Kolin, Czechoslovakia ..... *Portrait of W. Funke*
102 H. Y. SUMMONS, Virginia Water, England ..... *Fir-cones*
103 C. STUART TOMPKINS, Melbourne, Australia ..... *The Chef*
104 RICHARD TRÄGER, Vienna, Austria ..... *April*
105 HORACE TYZACK, Victoria, B. C., Canada ..... *The Despondent Investor*
106 OTTO KURT VOGELSANG, Stolpi Pom., Germany ..... *Fräulein S.*
107 OTTO WALLNER, Graz, Austria ..... *A Corner in Graz*
108 MARY RUTH WALSH, Cambridge, Mass. ..... *Drifting Dunes*
109 CECIL M. WARVEL, Evanston, Ill. ..... *Curves of Power*
110 MRS. MARY E. WATTS, Whitley Bay, England ..... *The Cook*
111 ALFONS WEBER, Chicago, Ill. ..... *November Morning*
112 J. M. WHITEHEAD, Alva, Scotland ..... *The Vandals' Trail*
113 FRITZ WIDDEK, Budapest, Hungary ..... *Venice: Dolce far Niente*
114 PAUL WIERUM, Chicago, Ill. ..... *An Early Morning Cruise*
115 DOROTHY WILDING, London, England ..... *A Southern Beauty*
116 T. YAMAGISHI, Seattle, Washington ..... *Silvery Waves*
117 N. YAROVOFF, Montevideo, Uruguay ..... *Portrait of the Painter F. Lanau*

First prize was awarded to the "Portrait of Frau Lilli Darvas" by Mario F. Bucovich of Berlin. This picture is a charming bromoil transfer in red chalk, and in spite of the difficulty of carrying over the fine details of the white dress in transfer, it is a complete success, certainly the finest transfer of its size which we have seen. The characteristic of this portrait is grace and sweetness. It is full of the spirit of youth, and the background of blossoming shrubs is in complete harmony with the idea. There is nothing of the modern in this portrait; its arrangement is in keeping with the costume, showing the dignity of an earlier age. It makes us feel as if there were still something to be said for the dignity of long skirts, long hair and quiet manners.

Second prize was awarded to "Meditation," by William Mortensen of Hollywood. This is decorative in the highest degree. While the model is living, her formal pose and impassivity almost belie the fact. The screen, the vase with the rose, the rug and cushions, are all most happily placed to add to the decorative aspect of the figure, and the etching or brush marks which cover the entire surface of the print carry out the decorative quality and still further remove the picture from any suggestion of lifelikeness. Every bit of personality is here subdued to the quality of decoration.

Third prize was awarded to "Despues de Misa," by J. Ortiz Echague of Madrid. It is hard to make a formal criticism of this print. It is a subject so far outside of the reach of possibility of most photographers, and so admirably done in all its details that it must be studied over and over again before one sees all of the qualities inherent in it. Apparently the figures are placed haphazard, almost in a row, yet notice the dominant lines of the composition. A Saint Andrew's cross is made by the lines of the two major diagonals of the print. When we add to this the way in which the tiling of the floor has been brought out to produce another cross, it is apparent that a great deal of study has gone into this apparently casual grouping. The quality of the darks and lights is magnificent, and the coarse granulation of the print takes away any excess of reality, which might be unnecessary in a composition of this character.

Fourth prize went to "Nude Study," by C. B. Seifert of Toledo. This print also is of decorative character. The two figures are pleasingly posed yet tied together by the hoop, which though a somewhat commonplace property today, is still an interesting and valuable feature in this composition. This line is more or less repeated by the outline of the background and the trees springing from it, and the dark tones of this are strong enough to tie it into the main group and avoid what might otherwise easily be a too great separation. While the motive for this composition is not as apparent as in the two last mentioned, it is still much more decorative than realistic.

DESPUES DE MISA

J. Ortiz Echague

Third Prize, American Photography Eighth Annual Competition

The following prints were awarded fifth prizes and are arranged in alphabetical order rather than in that of assumed merit:

"Ca d'Oro Palace, Venice." Erich Angenendt of Dortmund has chosen a subject which has been photographed over and over again, in his study of the façade of the Palazzo Ca d'Oro in Venice. The building itself is one of the most famous on the Grand Canal. Its architecture is charming throughout, and Mr. Angenendt has made a study of pre-eminent value by concentrating upon the arches of the arcade of the first floor and their charming reflections in a gently undulating expanse of water. As befits an architectural subject, extreme symmetry characterizes this print, which minimizes detail, but fully emphasizes the beauty of light and shade on wall and water.

"The Penguins' Pool," by Hugh M. Bell, F. Z. S., of London, is a most interesting example of how pictorial quality may be given to a subject assumed by most photographers to be suitable only for record work. Here we have two birds in a zoölogical garden, taken in the bright sunlight of a summer day, yet see how interestingly the lines are chosen, how well the figures are placed in reference to these lines, how the slight difference in position and distance from the camera assisted in giving principality to the bird on the left while making the other, apparently of equal importance, a subsidiary element in the composition. The birds themselves, of course, with their strong contrast of black and white, are well adapted to such composition, but even they could not make a picture without the assistance of the reflections which give the necessary vertical strength to an otherwise horizontal composition.

"Dinant," by H. Berssenbrugge of The Hague, offers us a subject which is no more than the usual street scene, photographed by thousands of tourists. There is nothing more intrinsically picturesque in this street than in hundreds of others in Europe. The viewpoint, however, is well chosen to give great value to the two towers and the castle, thereby giving majesty to the composition, while interest is concentrated in the foreground by the dominant note of the figure. This is apparently designedly done in order to emphasize the tapestry-like effect produced by the contrasting lights and semi-darks of the distance, something which is further accentuated by the grained effect caused by the ridges of the paper. Without this figure, to which the eye continually recurs, even though attracted by the beautiful incidents of the distance, the picture would have been no picture, but a mere postcard.

"A Solitary Path." Achille Bologna of Turin found a most picturesque spot in his solitary path. The light and shade among these trees and flowering shrubs gives us the impression of summer coolness, but there would have been no picture here without the figures of the tiny shepherdess and her two sheep so charmingly introduced and so beautifully outlined in light against the background. It is a pastoral study of conventional construction and workmanship, but it recalls to us once more that the function of art is to please and not to astonish.

"The Silver Mask," by Gordon H. Coster of Baltimore, is singularly full of expression, in spite of the fact that the mask, the painted lips and all the rest of the masquerade costume are designed to disguise. Nothing, however, can disguise the gleam of animation in these eyes nor the pleasure expressed by the slightly parted lips. The handling of light and the placing of tones are beautifully managed.

"February Fill Dyke," by S. Grimshaw of Manchester, England, is another bromoil transfer where the usual inability of the process to render the finest gradations in the lower tones is no disadvantage, for this grayness of sky and water exactly expresses the hazy brightness of a misty winter day. There is no lack of vigor in the middle tones.

NUDE STUDY

C. B. SEIFERT

Fourth Prize, American Photography Eighth Annual Competition

The anatomy of the trees is perfectly rendered, and undoubtedly every tone desired by the maker is here present in its proper measure. The line arrangement is charming.

"Sunlight," by S. K. Katsu of Los Angeles, is perhaps the most modernistic in treatment of any of our prize prints. Its maker has found a bit of architecture wonderfully adapted for his purpose, and has so placed his lights as to bring out the lines of a most intricate pattern in the fullest measure. This double zig-zag carries the eye back and forth across the print with a most rhythmic swing, while an unusual bit of virility for such a pattern is given by the powerful line of the tree cutting straight across this vibration.

Professor Rudolf Koppitz of Vienna has achieved in "Mother" a charming new rendering of the perennial Madonna subject. The two figures are most interestingly placed, and the lighting so arranged as to give a magnificent swing of line through the two figures. The background is perhaps a trifle conventional, but the charm of the two figures is irresistible.

"Return of the Fishing Fleet, " by Ernesto Moreschi of Milan, is a very fortunate grouping of the always interesting Italian fishing boats. Its lights and darks are happily disposed and the tone values beautifully rendered.

"Great American Egrets," by Ranald Rigby, F. R. P. S., of St. Annes-on-the-Sea, England, is another zoölogical photograph. Here also we have the charm of interesting grouping and of a beautiful rendering of white plumage against a background which brings out the values attractively.

EXPOSURE

HANS A. ERIKSEN

TO AVOID some of the pitfalls of photography amateurs are usually advised to stick to one make of plate or film and one fixed formula of developer. This may be good advice, if one is doing only the kind of work a certain plate, film and developer is best suited for. But most amateurs are all-round workers, and there is no such thing on the market as a universal plate, a universal film, or a universal developer.

Nominally, such things are to be obtained, and a "universal" developer may be mixed at home. But the amateur who is really interested in photography will sooner or later be mixed up in problems which the universal stuff can not solve for him in a successful way. Then the special plates and developers come in handy — if one knows how to use them.

If you stick to one make of plate — and do not expose it to too great a variety of subjects — you may be able to judge the exposure by looking at the ground glass, or by the reminiscence of conditions leading up to the successful exposures of yesterday. This practice won't do, however, when using one make of plate for this subject and another make for that, when employing an ortho plate and a Dr. Hübl filter here, and a panchro plate and a Wratten filter there. One has to do some calculations before pressing the shutter release.

Once I read somewhere that photography begins with the exposure. This may be correct if the exposure is correct — if not, one might as well say that photography begins for anyone when said person buys his first camera.

RETURN OF THE FISHING FLEET

ERNESTO MORESCHI

Fifth Prize, American Photography Eighth Annual Competition

It was that way with me, anyhow. When I got my first camera I made a lot of exposures. . . . But photography? Well, to be sure something was to be seen on the third or fourth plate I developed — but it was lost in the fixing! And having no books to consult and nobody to ask, I was considerably perturbed, until I got hold of the books I needed. Then I found out that there was a stop in the lens — and that the pointer was not supposed to stay in the fixed position marked U. S. 128! When I moved it to the other end of the scale I got something on my plates. Photography began.

To start with I guessed at the exposure. But I was evidently not gifted with that enigmatical faculty some workers claim they have, to make a right conjecture every time, for I got negatives as black as the slates we used in school — and some as clear as glass plus a thin coat of gelatine. Of course, I got a fairly good negative once in a while, too — for the same reason that if you keep on bowling long enough you can't help making a hit!

Then I bought an exposure calculator. And if I had bought only this one I might by and by have got accustomed to use it as an aid to correct exposure. . . . But I bought another one, and still another one. At last I was as uncertain about the timing of my plates as ever I had been. It was especially the plate speeds that caused trouble, and this trouble followed me right along until I finally boxed all my exposure calculators and bought an actinometer.

The age of childhood is a happy one: the child knows nothing of plate speeds. But when you grow up to knowledge of all the speculative ways of marking plates and films for sensitiveness, then you may as well begin to look in the mirror for gray hairs! Why platemakers cannot agree to mark the sensitiveness of their products in some standard way, I do not know. But I do know, that if all the watchmakers in the world should mark the dials of their clocks with different number values, nobody would be able to tell the time!

On page 58 in the *American Photography Exposure Tables and Handbook* (a very good book, to be sure) is a table which is supposed to give the usually accepted ratios between the various systems of plate speeds. If you have only this one table of compared plate speeds, take care never to get within the focal length of another one! If you do you will regret it; for you will lose your faith. I have half a dozen such tables. They are very different, all of them. I am no longer so sure that 18 Scheiner equals 560 Hurter & Driffield; that 560 H. & D. equals 825 Watkins; that 825 Watkins equals 180 Wynne, etc. I have yet to find two tables that agree on these values and two different exposure systems that set the same speed for the same make of plate.

The only way out of the difficulty at present is to construct a plate speed table for oneself. The plate speed marked on the box containing a certain make of plate, or found for that same plate in the list usually following exposure calculators and meters, holds good only when the same developer is used with which the speed was found. Those speeds are development speeds rather than exposure speeds. And I, for one, seldom use the formulas of the platemakers. I have my own formulas — which I believe are much better, of course!

I may mention still another argument for a homemade plate speed table: whether one is employing an exposure calculator or a meter, there will always be some peculiarities pertaining to one's camera and way of working, and the meter or calculator will not as a rule take care of these peculiarities automatically. It makes some difference whether you are using a cheap "I. B. T." shutter, a high grade between-the-lens shutter, or a focal-plane shutter. And it makes all the difference whether your shutter — of whatever make it may be — is tested or not.

SUNLIGHT
S. K. Katsu
Fifth Prize, American Photography Eighth Annual Competition

The last time I invested in a new camera I got some surprise along with it, for the same money! Being an expensive outfit, I expected the shutter to be fairly dependable, so I made a couple of exposures before testing the thing. I timed and developed as usual, but got overexposure. The next day I put the shutter to the test; and, as I had expected, it was altogether too slow on the speeds I had used the day before. All the speeds up to 1/10 sec. were about fifty per cent slower than marked. The 1/25 sec. speed proved to be an actual 1/10 sec., and the speed marked 1/50 sec. was of about the same length, being an actual 1/12 sec. . . . The shutter was returned to the maker and adjusted. When it came back all the speeds were as correct as one may expect; the variations being from ten to thirty per cent. This experience told me, that if photography begins with the exposure, correct exposure begins with the testing of the shutter.

When the shutter is tested and the speeds varying from those marked have their actual values written down on a card — or still better, in your memory — it is time to take the nature of the subject to be photographed into consideration. The subject factor is an important factor when using exposure calculators, and it can not be entirely ignored when employing actinometers.

While taking a trip through the mountains of Jotunheimen, in Norway one summer, I had an opportunity to see how some folks ignore the subject factor. On the deck of the boat which brings tourists across the mountain-lake Tyin in summer time, I had a party of travelers in front of me. They had a camera among them; first one and then another of the party would raise it and snap a scene, as the boat glided along in the middle of a snow-covered mountain panorama. I had a quarter plate hand-camera all ready for exposure, but tucked under my coat to shield it from the bright sun, as I was waiting for a certain mountain to come into view — a mountain having a peak somewhat resembling the beak of a falcon and therefore called "Falketind" in Norwegian. A young lady in the party ahead of me happened to have the company-camera in her hands as the peak I was waiting for came slowly into view. And, of course, the party wanted a picture of this scene and called out to the young lady to snap it right away. But this young lady was probably not so sure of knowing all about photography as the rest of the party; for as she saw me expose on the scene, she stepped over and asked what exposure I had given to it. I answered: 1/50 second, stop *f*:16, plate speed 300 H. & D. At the same time my eye sought the lens of her camera and discovered the diaphragm to be fully open; the lens being a Kodak Anastigmat working at *f*:6.3. The shutter was set to 1/50 second. When she had stopped down the lens and exposed on the view, I asked if the lens had been used wide open all through this bright day in the mountains. "Why, surely, we got such nice pictures with that setting just before leaving town!"

The party very likely did, if the streets in that town were not too narrow. . . . But why use town exposures for mountains nearly covered with snow and quite a little distance off beyond a lake? Even when guessing at the exposure, there ought to be some common sense in the guess.

To settle the subject factor in every case is not so very easy though; it is not so easy as it appears when reading the directions given with exposure calculators and meters. There are snow scenes and snow scenes; there are river scenes calling for one quarter the exposure of an average landscape and river scenes calling for eight times as much. There are street scenes and street scenes — and some street scenes which ought to be timed as interiors! In the woods one may find views calling for no more exposure than an average landscape, and views calling for ten to twenty or thirty times that exposure. The only subject which does not call for much variation in exposure is "Clouds and open sea."

FEBRUARY FILL DYKE

S. Grimshaw

Fifth Prize, American Photography Eighth Annual Competition

But the average amateur seldom exposes on clouds and open sea only. The textbooks on pictorial composition hold forth that there always must be a "principal object" in the picture. And this "main object," which is supposed to "draw the eye" and "hold the attention" of the onlooker, is seldom registered when using the subject factor for clouds and open sea — unless one is out for silhouettes.

When talking of clouds and sea, one may also mention clouds in connection with ordinary landscape photography. Here the clouds are as a rule lost in the exposure, unless the foreground is badly underexposed, or the photographer employs some special means for registering the clouds on the same plate as the landscape. With suitable light filters and emulsions sensitive to colors it is quite easy to get the clouds on the same plate as the landscape; but care must be taken when settling the subject factor, or one may get a translation not aimed at. When using a filter for landscape work, one is cutting out the rays which in ordinary work cause overexposure of the sky and distance, and a suitable filter will cut out not only the ultra-violet rays but some of the violet and blue rays as well. The multiplying factor of the filter will take care of the difference in exposure for an average subject; but when taking an open landscape or a distant view one must remember that all the ultra-violet light is cut out, the rays reaching the plate from the extreme distance and sky are no longer eight to twelve or sixteen times more active on the emulsion than the rays coming from the foreground, and one must allow for this to avoid that great contrast which gives the sense of over-correction to the print.

As will be seen one must fall back on intellectual reasoning and judgment even when using exposure calculators, or meters. Any calculator will — intelligently used — prove to be a good guide to correct exposure in the hours of the day when the sun is high up in the sky. During these hours, however, the camerist who did not buy his outfit yesterday will know just about how much time to give in most cases. It is when special subjects are attempted, and when the sun is low in the sky, that one is in most need of a good guide. But then the calculator will probably be quite as far out as a moderately good guess. Then one may ask: Will an exposure-meter settle the question?

I, for one, can't get along without an exposure-meter. Living as far north as latitude 60° and in a mountainous country with ever-changing atmospheric conditions, an instrument which actually measures the light is indispensable to me in my photographic work. In winter the sun is so low in the sky even in the middle of day that a hill or mountains may shut it out entirely. In summer the twilight lasts for hours, morning and evening — in the last part of June and first part of July pictures may be taken through all the twenty-four hours of the day. That's probably why I now have four actinometers in my possession instead of one!

The actinometer will settle the question of exposure in most cases. But the success of the exposures depends on how the instrument is used. One must get the knack of it — and adapt it for individual requirements. Even if you know the efficiency of your shutter and the speed of your plate, you must also study your subject until you know it. The instructions you get with a meter when bought will as a rule tell you to test the available light and give one-eighth, one-quarter and one-half or twice the exposure found, according to the nature of the subject. But these are general instructions only: there are other ways to go about it. However, most of the readers of this magazine surely possess the *American Photography Exposure Tables and Handbook*, in which the use of exposure-meters is fully discussed, so I shall not venture further into the subject here.

Correct exposure is a relative term; it is not the exposure any calculator or meter shows when used automatically, but it is the exposure an intelligent and experienced

DINANT

H. Berssenbrugge

Fifth Prize, American Photography Eighth Annual Competition

worker arrives at by the aid of these instruments, after consideration of the factors leading to it. Nowadays, when all earnest workers in the field of photography are employing color-sensitive material and light-filters, the difficulties encountered in the determination of the exposure are greater than in those days when the first exposure calculator was tabulated. And all is not said and done yet; it may not be wise to state too dogmatically, that if this and that is done so and so you will arrive at just the right exposure every time. Nature is versatile in her moods: you never catch her twice with the same air about her.

NEWSPAPER PHOTOGRAPHY

WILLIAM P. MATTERN

THERE is no question but that photography is enjoyable. The multitude of "snap-shotters," dyed-in-the-wool amateurs, and even professionals proves that. People become "snap-shotters" perhaps by chance; amateurs, by reason of excited interest; and professionals because of choice or necessity. It seems to be merely a matter of circumstantial sequence — the gradual evolution from amateur to professional.

Photography is enjoyable because it provides continual pleasure in the finished product after nothing less than fascinating play-work in the procedure of production.

In newspaper photography are combined all of the opportunities for expression of ability which the average man may desire. A photographer may pride himself upon his versatility and yet find in this game that he has much to learn that can be discovered only through actual experience. The artist with film, whose pictorial efforts are frequently recognized with envied awards at exclusive salons, in newspaper work would probably prove a fizzle. This may be explained with the simple statement that newspaper editors are hard-headed gentlemen with their own ideas of what constitutes a picture. Like Sherman, they may be crude, but correct.

The common impression that speed is the first essential in newspaper work is only partially grounded on fact. Assuming that good pictures are the rule rather than the exception (though they are not), it is true enough that on the metropolitan dailies speed is the prime requisite. But I do not choose to discuss the work as it applies to those gigantic machines of journalism which cater to the millions. The photographers of those newspapers have their work practically cut out for them, and their day is decidedly routine as compared to that of the "camera man" on newspapers in cities below the quarter-million mark in population.

The photographer who can hold down his job on the small newspapers of the country would generally find big city work monotonous. Like every other member of the staff in a city of from 20,000 to 100,000 population, he finds his work varied and interesting. Of course he does have his routine assignments, but they are few.

His equipment consists probably of a Graflex, 3¼ x 4¼ to 5 x 7, with an *f*:4.5 or faster lens, and a 5 x 7 or larger view camera, in addition to flashlight equipment. While many of the newspapers in cities of this classification have their photographic finishing done by some commercial house with the understanding that all work is "rush" work, about fifty per cent are provided with their own darkrooms and all facilities for saving time when time is at a premium. A matter of five or ten minutes to a progressive

THE SILVER MASK
GORDON H. COSTER
Fifth Prize, American Photography Eighth Annual Competition

newspaper is often a matter of a big gain (or drop) in circulation, at least for the particular day. In a newspaper office today is the present, and yesterday is the Middle Ages! There are no tomorrows!

The life of one issue of a newspaper, which packs all of the excitement, the joys and sorrows and interests of the people of a nation within it, is approximately twenty minutes. Therefore the business of the paper is briefly to tell the news of minor incidents nearby, and to elaborate important occurrences of domestic interest.

The photographer would be chiefly concerned with news items under the latter category. His job is to tell what happened so that the reader may grasp the situation at a glance, or at least be aided in doing so.

A murder is committed! The camera man, having been given his instructions, reaches the scene of the crime *before* the representative of the contemporary sheet. He may be reporter and photographer, or he may have another staff man with him to procure the news while he is pulling tabs from the adapter of his Graflex — each tab indicating that some person or scene connected directly or indirectly with the murder has been imprinted upon the film.

If he has no assistant to rush the films back to the office and darkroom, while he remains on the scene to watch developments of the prevalent excitement, his business then is to get them back to the office himself.

In the darkroom, the photographer or his assistant loses no time in getting those films into the developer. Pyro is generally used, and when pressed for time is used directly from stock solution, with no dilution, and if possible slightly warmed.

Development under these conditions is completed in from two to five minutes, and a contrasty negative results, unless the solution was made too warm. The negative is rinsed, and placed in the hypo, which is the regular formula. The solution is sometimes made up double strength, but obstinately refuses to do its work in half the time. Perhaps it clears the negative in another five minutes; it is then ready for printing.

Here again ordinary process would require washing, but while the negative was fixing, the photographer has made ready for printing. An 8 x 10 frame is used and the glass is clean. The negative, roughly rinsed by immersion in water, rubbed between the palms of the hands, and again immersed, is now placed upon the glass of the frame, emulsion side *up*, and a sheet of thin celluloid, the size of the glass, placed upon it.

The celluloid should fit snugly into the frame, and he examines it closely to see that the edges are free. A squeegee, size 8 x 10, is used to remove water between the film and the celluloid, after which the printing paper is carefully placed over the negative, and the whole is exposed. The paper is developed, rinsed, and left in the hypo not less than one minute. Another minute, and the engraver is rushing through with the cut. The work of the photographer from the time he entered the darkroom was completed in less than 15 minutes if he made but one print, and from two to three minutes more for each additional print. The engraver usually completes the cut in from 30 to 45 minutes, so it will be seen that from the time the film was placed in the developer until the finished cut was returned to the editorial room, the elapsed time was about one hour.

Ordinarily the cut will repose undisturbed on the editor's desk for an hour or two before going to the composing room, but in this instance we will assume that the composing room receives it immediately. In furtherance of the "rush" order, a mat is made. From the mat a lead cast conforming in breadth and width to the size of the picture, and in depth to the size of the page forms, is made. Again the process is repeated, and this time the entire page, with pictures and type, is made into a mat and the whole then becomes a cast.

THE PENGUINS' POOL

HUGH M. BELL, F. Z. S.

Fifth Prize, American Photography Eighth Annual Competition

The cast, instead of being flat, as for individual pictures, is now semi-cylindrical. It is made so to fit on the press rollers, and it represents one page of the newspaper, embodying the picture used in connection with the murder story, the story itself, and any other news placed upon that particular page. The final process in the making of the paper is carried through by the intricate machine which grinds out thousands of folded copies each hour.

As has been mentioned before, speed is not the prime requisite of newspaper photography. Speed is desirable in some work, and absolutely necessary in many cases. Quality in any event is as much demanded. If there be any inclined to believe that newspaper picture-taking and picture-finishing are slipshod, a visit to their own local newspaper plant would suffice to convince them of their error.

Pictures required by newspapers must be sharp and contrasty, because of the coarse screen used in reproduction. Except in rare instances, when it is a matter of extraordinary importance, newspapers will not use photographs even slightly damaged. Films are not often damaged through "rushing" in the darkroom. There is method in madness even here, for every photographer can appreciate that the newspaper camera man is not going to "take a chance" ruining a negative which can never be duplicated. Therefore, although his methods of development, etc., are drastic, they are certain.

An uninitiated amateur, in the rôle of onlooker while the press picture is being finished, would have his heart in his mouth all through the process. He would find it difficult to understand how such a fragile thing as a celluloid negative could be handled seemingly so roughly, and yet appear perfect when ready for the files. His fear would be mostly unwarranted because, while apparently submitted to all kinds of indignities, the negative is actually handled with painstaking care.

Take the matter of rinsing, when the finisher seems to be actually tearing through the emulsion with his finger nails, he is really exercising great precaution that only the palm of his hand ever touches the silver coating.

Again, these films, after prints have been made, are returned to the hypo for further fixing, and are thoroughly finished by prolonged washing before they are dried, indexed and filed.

In addition to speed work, the photographer finds many opportunities to exploit his knowledge of the usefulness of his camera. He frequently has historical pictures and letters to copy when these are wanted to be used with a feature story. The picture-page of his newspaper uses "human interest" pictures which are diversified; and the social page demands photographs and portraits.

For most work of this kind he uses the view camera, which is fitted with an *f*:6.8 convertible lens, and possibly a wide-angle lens for group and banquet work.

If his employers do not object,the newspaper camera man is often called upon for work outside of the office by advertisers and others, by whom he is well paid for commercial photographs. Persons who have figured in the news often request prints of negatives of themselves, and these are usually obliged at no cost, except when one or two prints do not satisfy them. Banquet pictures as a rule bring requests for many prints, which are paid for, the photographer making a small charge for his labor and materials, except when the paper is willing to make these pictures gratis as a good-will offering.

In view of the volume of the work sometimes done "on the side" by newspaper workers, it seems unnecessary to state that when the owners of a newspaper permit employees to furnish prints to outsiders, with the understanding that it must not interfere with their work as paid employees of the newspaper, such practice should not be permitted to irritate commercial photographers of the community.

A SOLITARY PATH

ACHILLE BOLOGNA

Fifth Prize, American Photography Eighth Annual Competition

Their complaint of competition would be fair indeed if their own rates were not met; and on the other hand they would have excellent reason for limiting their advertising with the particular newspaper whose employees hamper them in their photographic work by "price cutting."

THE PICTURE'S THE THING

LINA LONGAKER

A MAKER of master pictures was criticizing some of my prints one day. "It's pretty good," he said, as he looked critically at a photograph of a doorway framed by an apple tree, "but why did you get so close to it?"

"I had to," I replied, "there was a wall in the way."

"That's far too trivial an excuse," he said with his quizzical smile that always took the sting from his comments, "the picture is the only thing that counts."

Whimsical as the comment was, it started me along the road of true photography, the road followed by all those who achieve excellence in their adventures with light and a sensitized plate, with the knowledge that the picture only is the thing. With that as a goal, stone walls and mountains become trivial, for one has glimpsed the artistic faith that removes them.

Along this road there are many guideposts, yet it is followed by only a few of those who snap as they go with a camera. Even those who stop to pose and consider, before they make a picture, are often waylaid at the first milestone. They find a few poses that work, a few conditions of light that are satisfactory and they rest content with this rudimentary knowledge of composition.

The trouble with most of us is that we think that composition is the exclusive possession of the expert or the art photographer. We forget that anyone may grasp at least the tail feathers of real picture making, possibly first in concrete facts, and then in the larger principle. As we do comprehend these facts, photography for us takes on a new meaning. Few of us are artists born, that's why we find it difficult to make practical, in our own pictures, the principles that men spend a lifetime in learning. But if we will begin pragmatically, and do certain definite things that are accepted as sound art principles, almost without knowing it we learn quite a bit about composition. At least I found this true in my experience.

The pictures that I once made were interesting only to myself and to the subjects. They were typical of the hundreds of thousands of photographs that are made each year. They might always have continued that way, had I not met a photographer whose every plate had an indescribable grace and beauty. He was too true an artist to lay down any rules to follow, but he talked much about photography. Possibly because I was not in the artist class, I formulated simple rules from what he said, and whenever they have been applied, almost by rule of thumb, better and more interesting pictures have resulted.

This has convinced me that if anyone will start with the desire to prove that the picture is the thing, his work will before long become interesting, even unusual; for, with that as a slogan, he has emblazoned on his finder or ground glass the one great principle of all art, unity. To the snapshooter, and we are all snapshooters, more or less, if we love the camera, such an abstract term as unity means little or nothing, which is why, in spite

MOTHER

RUDOLF KOPPITZ

Fifth Prize, American Photography Eighth Annual Competition

of our learned discussions, we get so few good photographs. So let us begin by forgetting abstractions, and follow where the road will lead if the picture is the thing.

First of all, we are not going to take two or three pictures on one plate or film. "But we rarely do make double exposures," one hears an army of enthusiasts reply. That is not the point. Look at the prints in any amateur album: ninety per cent of them are two or more pictures in one. There is an interior portrait of a college youth, in which the background of small pictures and pennants crowds out the figure; or a well-posed picture of a girl, in which an elaborately polka-dotted dress takes the entire attention from the face; or a landscape which could almost be used for a topographical map. If the picture is the thing, we are going to watch every film we expose to see that we are not letting more than one picture creep on to it. In photographing people we are not going to let backgrounds or anything in them detract, nor extraneous objects interfere, with our subjects. We'll see to it, when we photograph our friends, that they are the central and only part of the picture, even though it may mean taking down pictures indoors, and cutting down trees, figuratively, by changing one's viewpoint, out-of-doors. Likewise, in taking landscapes, we are going to confine our pictures to the feature that really interests us. When we stop to analyze our subject it may be only a group of beech trees, which the sunshine may have transformed, or the gnarled trunk of a tree. On the other hand, it may be a broad hillside. But let us try to photograph only that which "makes the picture."

A simple corollary of this first rule leads in the same direction; use every bit of your plate. It doesn't pay to have your figure in the middle of the plate with an inch on each side, for instance, that says or means nothing. It is just waste space, and when one is thinking in terms of pictures, one cannot waste space any more than an artist can afford to waste his canvas. Even those experienced in making photographs fail, all too often, to use the full plate, yet the endeavor to do so automatically improves one's composition and cuts out many superfluous and detracting details.

If, however, one would walk safely in the way of making real pictures, one must watch equally zealously to keep all of the picture on the plate. Unwatched lines are terrific pointers, and all too often a wrongly placed hand, a branch of a tree, or a misdirected glance will take the interest right out of the picture. Instead, we should try to have every line lead to the center of interest. By the mere twist of the wrist, as the conjurors say, one can change the emphasis on a face. An arm that hangs down with the hand cut off, is a good line to follow right out of the picture. If instead, the hands slightly direct the interest upward they subtly call the attention back to the person's face. If one will but look at the paintings made by the old masters, he will see how constantly and continuously they used the hands to reflect interest to the face.

More than anything else, a "frame" in a picture helps to keep it "on the plate." Anything may serve as a frame, a shadow, a special light effect, a limb of a tree, so when snapshooting, get the habit of looking for a frame. One can't over do it, if he but remembers that frames in a picture, as well as out of them, must always be subordinate to the subject itself.

There's another factor that enters vitally into picture making — light and shade. One travels a long way before he learns all of the intricacies of sunlight and shadow, but a help on the way is to form the habit of watching the patterns that are made by light as it comes through a window and falls on the wall, or glances through a canopy of leaves on the sidewalk. He gradually begins to appreciate its value, and the desire grows to put some of this magic maker of patterns into his picture. It gives to one's photographs another

GREAT AMERICAN EGRETS

RANALD RIGBY, F. R. P. S.

Fifth Prize, American Photography Eighth Annual Competition

interest, that which artists call tone; one's snapshots are not mere delineations of a scene. They have a subtle feeling of atmosphere.

The last rule of thumb that one needs to seek to develop is that of contrast. One soon learns that even a small accessory may bring the contrast that is so essential, a rattle in a baby's hand to offset the dead whiteness of the dress, clouds to break the monotony of the sky that stretches over the hillside, or a shadow on a vacant wall. They seem like little things, but they are important.

If one but watches these small details, it surprises him to see how soon his photographs take on a new character. They begin to look as though they were really "made." They don't "happen." One develops a sense of selection, and before one knows it, the slogan, "the picture's the thing," has led him surely and certainly up and on into a knowledge of true composition.

ENLARGING — IV

E. J. WALL, F. C. S., HON. F. R. P. S.

WE have now to deal with the light sources that may be used. Daylight is the least satisfactory, not only on account of its variability but also because one cannot work at night, which is to so many amateurs the most convenient time. One can arrange to point the enlarging apparatus to the sky, thus using direct light, but this is not a convenient method and the passing of a cloud across the portion of the sky that illuminates the negative will obviously affect the exposure. The usual system of placing the apparatus on a table with a reflector outside the aperture in which the negative rests is too well known to demand much comment. The only points to be observed are that the reflector must be white, preferably with a matt surface, and never a mirror. It must also be large enough so that when the eye is placed at the position usually occupied by the lens, nothing but the reflector is seen through the aperture.

Arc lamps are sometimes used by professional firms, but are not to be recommended for amateur use. There are several objections to them; in the first place, unless one has an automatic feed, constant attention is required to keep the carbons the same distance apart, which is essential for constancy of power, and there seems to be a provoking tendency for the lamp to snuff out in the middle of an exposure. Only right-angle arcs should be used, as those with inclined carbons are difficult to adjust so that the lower negative carbon does not get in the path of the rays from the positive crater. Then, if alternating current only is available, practically half the current is wasted; D. C. alone should be used. The positive crater must be on the optical axis and theoretically maintained in exactly the same spot or uneven lighting will result. A rheostat and voltmeter must be placed in the circuit and constant attention is required to keep the voltage constant, particularly in the evening when so much current is being drawn by other people. If this be not done, the variation of the light is very marked, though it may not be noticed visually, hence errors in exposure are common.

But the most serious trouble is that the light, approaching the ideal point source, casts sharp shadows of any imperfections on the negative; scratches and retouching show up very plainly. In fact it is almost hopeless to use the naked arc; its light must be diffused by one or more pieces of ground glass placed as near the light as possible,

CA D'ORO PALACE, VENICE
ERICH ANGENENDT
Fifth Prize, American Photography Eighth Annual Competition

so that much of the supposed advantage of the arc, namely its strong light, disappears in practice.

There is also another defect which is met with, particularly with enclosed arcs. This is a want of sharpness, although the image may have been perfectly sharp on the paper. This is due to the predominant action of the ultra-violet rays. Lenses are usually corrected for the visual rays about wave-length 5890 and the blue about 4340; these two alone form coincident images on the paper or ground glass, all others giving more or less diffused images. As we cannot see the images formed by the ultra-violet light, which is so actinic that it forms the most noticeable image, the prints are not sharp. Therefore any light particularly rich in rays about 3400, where there is a very intense band due to the incandescent carbon and its impurity of iron, may give rise to this trouble. It is obvious also that a mercury vapor lamp, which has a spectrum of great intensity in this region, may cause the same effect. The interposition of a light yellow filter, such as the Wratten K $1\frac{1}{2}$, will cut out this band or at least reduce it so that its action becomes negligible. The filter must not be too deep in color or exposure will be unduly prolonged. It will be as well also to make sure from time to time that the filter has not faded, which it is very likely to do.

If much work is to be done, probably the best light is the M-shaped Cooper-Hewitt mercury tube. This is a glass tube 1 inch in diameter, bent to an M shape, giving four vertical tubes $2\frac{1}{2}$ inches apart, thus giving an area of light that easily covers an 8 x 10 negative. It is as well to interpose a sheet of ground glass about 3 inches from the lamp, and with such an arrangement the exposure for Eastman Royal bromide is about 2 seconds; while for gaslight papers such as Professional Cyko it will be 5 minutes and for Enlarging Cyko about 6 seconds. The exposures will vary with each make of paper and will be proportionately less for the slower, gaslight papers because their emulsions are mainly chloride and not bromide of silver and the former is much more sensitive to the violet rays in which this lamp is so rich.

Magnesium may be used either in the form of flash or ribbon. For the former, flash sheets are the most convenient, while for the latter a metal frame should be made to carry it. This frame should be as large as the negative and several strips of ribbon should be suspended about 2 inches apart, their length depending on the exposure required, which must be determined by trial, as is also the case with the flash sheets which can be obtained in various sizes and can be cut down if required. In both cases a sheet of ground glass or preferably flashed opal, must be used to diffuse the light. Of course one may use a single strand of ribbon and keep it on the move during its burning so as to light the diffusing screen evenly.

The great disadvantages of magnesium are its smoke and the blinding effect on the eyes, this latter necessitating the use of dark glasses if one is to work in any comfort. An alcohol lamp is the best thing to use to fire the metal, and if several strands are used they may be fired in succession. It should be remembered that the greater the length of the ribbon the greater its actinic power, as four 2-inch pieces do not give so much light as one 8-inch piece. Gaslight papers are here relatively more sensitive than bromide.

There are several commercial systems available, such as the Parallax Reflector or speculum condenser with which an ordinary Mazda lamp is used. Home-made apparatus is also possible in which either direct or reflected light or both may be used with Mazda lamps. G. G. Cousins[25] suggested a simple form with a 250-watt lamp, which consists of a box with the lamp suspended in the center and two mirrors, as shown in Fig. 11, in which L is the lamp, M, M are the mirrors and O a sheet of flashed opal glass.

AFTERGLOW
DOROTHY JARVIS

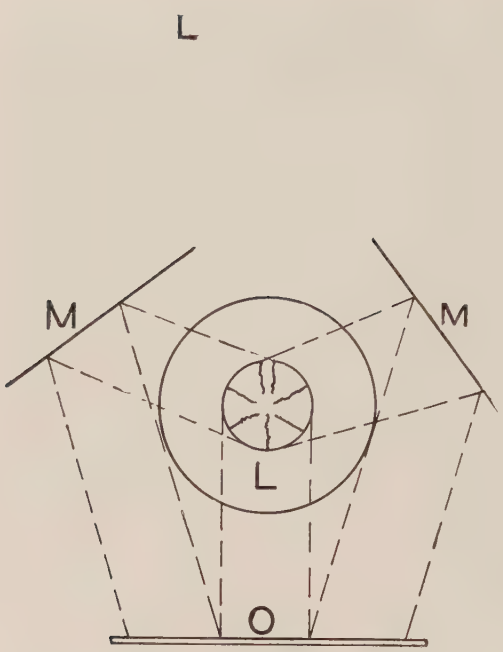


Fig. 11

The exact angle of the mirrors can be found by trial and this should be such that the direct light from the filament and the reflections on each side from the mirrors are adjacent. This arrangement gives a source of light equal to three times the width of the area enclosed by the filament. The box may be lined with white blotting paper, which is the ideal reflector, or may be painted inside.

One may use a truncated pyramid with the lamp at the smaller end or merely a triangular box, which may be looked upon as merely based on the above diagram with the rear space behind the lamp and those between the lamps and opal also filled in with wood or metal. The lamps may be placed on either side of the negative, so that the direct light does not reach it and a semi-circular or paraboloid reflector can be made. Even an automobile headlight reflector may be pressed into service, though it is difficult to secure perfectly even lighting with such an imperfect device.

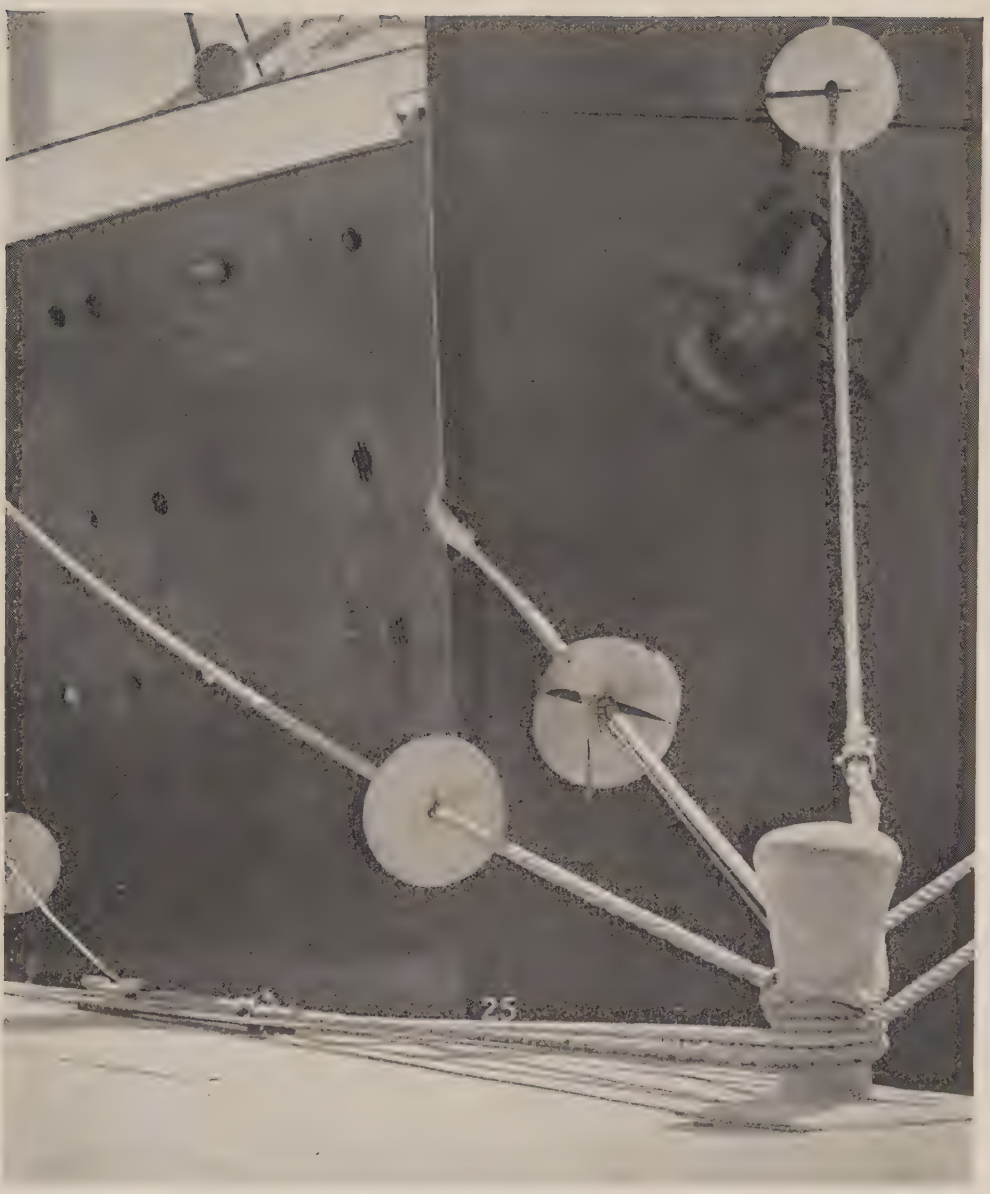
The most important point in enlarging is the exposure. The factors that determine this are (1) the density of the negative; (2) the actinic power of the light; (3) the speed of the paper; (4) the times of enlargement; (5) the diaphragm aperture.

With regard to the first factor unless one has some form of densitometer to measure the densities, this must be to a great extent a matter of judgment. If a densitometer is available, then one must find the range of densities of the negative by measuring the highest and lowest printable ones, and deducting the latter from the former, thus obtaining the range. Then one has to find the range of the paper. This method was fully worked out by Hurter & Driffield[26] and reference should be made to the original paper, as it is hardly worth while to enter more fully into the subject, the assumption being that densitometers are not in use by amateurs.

The second factor may be looked upon as a constant, provided the same light source is always used, which will probably be the case. The third factor must be determined by trial and error, though one may roughly classify all bromide papers as from 1 to 10, chlorobromides as from 10 to 200, and this would include such papers as are specially made for enlarging, such as Enlarging Cyko, Wellington Mezzotint; while gaslight papers run up to 1024.

Tables giving the increase of exposure for the fourth factor are given in various books[27]. The influence of the diaphragm aperture follows the normal rule, except when using condensers, then as will be seen from Fig. 4 the light is reduced to a cone, and the stop may be opened up without any more light passing, or closed down without cutting it down. With change of stop there is in this case variation in the illumination of the negative, but it is not in ratio to the stop aperture.

As already pointed out one is merely dealing with a plane surface, hence if the lens covers sharply there is no need to stop down. The safest plan, however, is to make an



TIED UP
KENNETH DUDLEY SMITH

artificial negative by exposing a slow plate, preferably process, to white light for a second or so, then develop till there is no further action, say for 20 or 30 minutes, fix and wash. As soon as dry, parallel lines should be ruled lengthwise and across at half-inch intervals, taking care that some at least are near the corners. If such a plate be put in the enlarger it will be at once seen what stop must be used to obtain sharpness all over, and this stop can be subsequently used for all negatives of the same or smaller size, thus eliminating one possible factor.

Various systems have been devised for determining the exposure, the most general being, of course, tentative trial exposures on a strip of the paper to be used. Generally it is advised to cut a strip of paper, pin to the easel and give a series of exposures in varying ratios. This plan is not the best, because one has not exactly the same subject to deal with, it being thus more difficult to judge the results. By far the best plan is to cut an aperture in an opaque card, this aperture being large enough to embrace a highlight and a deep shadow in both of which it is desired to obtain detail. If the card be pinned to the easel by the four corners a strip of paper can be passed behind the aperture for the given times and on development one has the same subject to compare. This has been found in practice easier than using a strip across the easel with differing subjects.

An important point is on what base and in what ratios should the trial exposures be given. This depends primarily on the paper, for bromide papers will require seconds and the slower chlorobromide and gaslight papers, minutes. If one has once made an enlargement on any paper it will be a guide to subsequent work; but if not then one must make a stab at it and can adopt 5 seconds as the starting point for bromide and 1 minute for gaslight papers. Then the ratios should be 1:2:4:8:16. If the exposure for a given paper and negative be known the ratios 1:1½:2:3:4 may suffice.

It may not be out of place to recommend that all negatives should be stored in manila envelopes or preservers, as they are called, and the name of the subject and the exposure required for any paper recorded so as to be available later. It will also be found a great convenience to trim off the flap and one side of the envelope so that the negative may be slipped in and out readily; this is a very simple little dodge, but it has been found very useful in practice.

One of the simplest methods of estimating exposures was suggested years ago by E. S. King, who was speaking of enlarging on dry plates. He said: "A simple test is to interpose a lighted candle in the beam of light from the lens and note the shadow of the candle itself as cast on the dummy (plate). By moving the candle toward the dummy, a position is found where the light from the candle just obliterates the shadows cast by the light from the lens. The distance of the candle from the dummy is a measure of the light, and the exposure is proportional to its square. For example, I found that, for a certain class of work with Seed process plates, squaring the distance expressed in inches, and dividing by 4, gave the exposure in seconds. The relation of the exposure in seconds to the square of the distance in inches is easily found by trial, for we can use the candle test with exposures obtained by any method, and determine the ratio from the best results. The kind of candle is not material so long as we use the same for all our experiments. There is some difficulty in noting just where the shadow disappears, and different eyes may vary in fixing the exact point. In general, a gentle movement of the candle will enable one to see the shadow better, and make the observation of the disappearance more accurate. If the light from the lens is too faint to cast a shadow of the candle at a reasonable distance from the dummy when the aperture to be used for the enlargement is in place, we may increase the aperture for the test and allow for the change in the

COMPOSITION
F. Drtikol

computation. This method of finding the exposure, if not exact, nevertheless affords a better approximation than given by the unaided judgment." It should be noted that in this test the dummy or easel should not be illuminated by the darkroom light.

This method has been repeatedly recommended since, generally without acknowledgment of its source, or with modifications such as the examination of the shadows through a piece of light blue glass to eliminate the possible trouble due to the difference of the color of the two shadows.

A. Lockett stated that the correct exposure for an enlargement from a given negative will be practically identical with the exposure required for a contact print from the same negative, provided the printing frame is placed in the same position as would otherwise be occupied by the easel and illuminated by the same light, all other conditions remaining the same. This applies either to diffused daylight or artificial light, but a point source must be excepted, owing to the more serious loss by scatter. Assume the case of an enlarger, fitted with condenser and with a ground glass or opal interposed in front of the light, or else a ground glass bulb. Assume that the enlargement is to be two linear diameters, and that the greatest density or opacity of the negative transmits only one-twentieth of the light. When the light reaches the easel it will be spread over 2 x 2 or 4 times the area, and therefore has only 1/20 x 4 or one-eightieth its original intensity. Suppose with a given paper the exposure was 1 minute. Then if, leaving everything as before, the negative is removed and placed in a printing frame with a piece of the same bromide paper and the frame is supported close against the easel, it will be found that one minute will give a properly exposed contact print. The unobstructed light reaching the printing frame has an intensity of one-fourth, as compared with that at the carrier opening. The greatest opacity in the negative again reduces the light to one-twentieth of its incident strength, so that it reaches the bromide paper only one-eightieth of its original intensity, as in the case of the enlargement. It is obvious that one can make tests by exposing the paper in a printing frame placed against the easel, or in the case of thick frames in which the paper would be too far from this plane, by shifting the easel enough to place the frame in its plane.

One of the most practical methods of determining exposures is by means of Dr. Mayer's Dremmeter. This is a small celluloid negative, $2\frac{1}{4}$ x $3\frac{1}{4}$ over all, with a working space of $1\frac{3}{4}$ x $2\frac{3}{4}$ inches, containing twelve negatives with opacities ranging from one-half to one-eightieth of the incident light. The maker states that it may be placed in contact with the negative and its image projected but this is not advisable, as it must produce scatter, hence the readings will not be quite so reliable as when placed in contact with the sensitive paper on the easel, to which it can be easily pinned. The method of using it is very simple. One merely decides on some exposure, which should be generous; for instance, suppose it is thought that possibly 10 seconds may be correct, then one should give a multiple of this such as 2 or 3 minutes, using a piece of paper just the size of the meter. After developing and fixing in the usual way it is easy to select that area which appears to be the best exposed, then one reads off against this the fraction and one has merely to divide the exposure given by this to find the correct exposure. Thus, assume 3 minutes to have been given and the area marked 1 15 gives a correctly exposed patch, then 3 minutes ÷ by 15 = 12 seconds, the correct exposure. This has been used by the writer not only for enlarging but also for contact printing, with very satisfactory results and much saving of time and paper.

So much has been written on development that there is nothing novel to advance. The composition of the developer may be that recommended by the paper maker or, as

IN CIRCLE — ARTHUR MURAY

the writer prefers, a standard formula may be adopted. Metol-hydrochinon or amidol are the two favorites. The latter is possibly the favorite because of the excellent color of the image; its only disadvantage being that one has to make it up just before use. For the beginner the best thing is to adopt Watkins' factorial method, noting the time of appearance of the first trace of the image and multiply by the normal factor, which in the case of amidol is 10. With metol-hydrochinon it varies as the ratio of these ingredients, but the factor may be readily found; for instance, assume that a developer with metol 1 part and hydrochinon 4 parts is to be used, then the factor for metol is 30, that for hydrochinon is $4\frac{1}{2}$, then $30 \times 1 = 30$ and $4\frac{1}{2} \times 4 = 18$; $30 + 18 = 48$ and $48 \div 5$ (the total of the two agents) $= 9.6$ which one may call 10. The experienced worker will develop to secure the effect he wants, but this method is strongly commended to beginners. Naturally one should work at a constant temperature and if good colors are required the de-

veloper should not be used more than once. In the case of large prints and rough papers it is as well to soak the paper in water, drain well and then apply the developer, but with small prints they may be immersed without prior soaking.

A point that is frequently neglected by novices is that of stray light reaching the paper. This may lead to degradation of the whites which is not very noticeable. It may be caused by diffuse reflection of the image-forming light by a nearby white or light surface, for instance the bench with horizontal enlargers. The machine itself may leak sufficient light to cause it, or even the darkroom light may be bright enough to fog with long exposures, and this light should be switched off or the paper shielded. A dirty lens may also cause this trouble. The best way to test for this is to place an opaque object, either a slip of opaque paper or card or a nickel or quarter on a white margin or separate test piece of paper, expose for the usual time and then develop. If the outline of the object can be seen, the source of the fog must be run down. Frequently the yellow cap supplied is made of a glass that is by no means safe. Much better than these glasses is the use of a Wratten No. 22 filter, which transmits nearly 50 per cent of the light and is perfectly safe for all papers. This can be easily bound up between two pieces of glass, there being no need to cement it.

While it is somewhat extravagant, many advanced workers use a large sheet of paper for a comparatively small picture. This saves the subsequent trouble of mounting, and if the picture is properly placed, is very effective. The exact position of the picture must be first located, which should be done on a piece of paper the exact size as the bromide paper and marked with clear pencil lines so as to be readily seen. Then a mask should be cut to this size, using either an Eastman Mask Chart or red celluloid masks. The former is possibly the most convenient, for it has one side black and the other red with cross parallel lines one-eighth of an inch apart that enable one to cut any size aperture with true square corners, an old razor blade and straight edge here being useful. If one wants to be economical one can utilize the black wrapping paper from the bromide paper.

One of the great advantages of the vertical enlargers is the ease with which one can vignette or shield any part during exposure. Vignetting is only used for portraits. One has only to cut the vignette in an opaque card, much smaller than is actually required and keep this on the move between the lens and image, remembering that the nearer the paper the less image transmitted and the sharper the outline of the mask and *vice versa*. To shield any part or reduce the exposure for the same, one merely requires a piece of card, cut roughly to the shape of the patch to be shielded and support it on a long hatpin and keep it on the move for some fraction of the exposure, which must be found by experiment. In the same way by cutting small holes in a card one may give more exposure to any particular patch of the image which is to be darkened or brought out more fully.

NOTES

24. *Brit. J. Phot.*, 1907, **54**, 169.
25. *Amer. Phot.*, 1914, **8**, 589.
26. *Brit. J. Phot.*, 1894, **41**, 714, 724; *Photographic Researches of Hurter and Driffield*, 209.
27. *Photographic Facts and Formulas; Wellcome's Photographic Exposure Calculator.*

GIRL AT FOUNTAIN

A. HANSON

Royal Photographic Society, 1927

YOUNG CINNAMON FERN

JAMES F. BENNETT

Nature and Wild Life

A. BROOKER KLUGH, M. A., PH.D.

NATURE PHOTOGRAPHY IN AUGUST. — A great variety of subjects present themselves for the attention of the nature photographer in August. Insects continue to be the dominant group of animals, and a large number of species of this class reach maturity during this month, this being true especially of the Orthoptera — the order to which the locusts, grasshoppers, katydids, and crickets belong. For notes on insect photography the reader is referred to our last issue.

Young birds are much in evidence during August, as the young of many species have left the nest but are still being fed by their parents. Photographs of birds which have recently left the nest are very easy to obtain, as they usually have little or no fear, but except as part of a series of photographs of the life-history of a species they have very little value as nature photographs. They do, however, provide an opportunity to secure photographs of the parents when they come to feed them. For this work a reflex is a necessity, as the young birds are constantly shifting their position, so that the use of a "set" camera is out of the question.

August is, on the whole, the best month for the photography of spiders, as by this time most species are full grown. There are, in North America, a large number of species of spiders — a far greater number than the casual observer would think. Many species build webs of various kinds, and these are the ones which are usually observed, but a very large number of species do not make webs, but run about seeking their prey. Of those which build webs the chief groups are the orb-weavers, which construct the familiar circular webs; the sheet-web weavers, of which the very abundant "Grass Spider" (*Agalena naevia*) is the commonest species; and the filmy-dome weavers, which make webs with a double structure, the bottom being a more or less firm platform and the superstructure a tangle of loose threads. One group of spiders, the nursery-web weavers, make no webs for the capture of prey, but the female hangs her egg-sac in a bush, weaves a large web about it, and "mounts guard" on the outside of this web while the young hatch. The wolf spiders, the crab spiders, and the jumping spiders are the chief groups which make no webs. The spiders which make webs are relatively easy to photograph, as they are not only more easily located but have the habit of remaining motionless for considerable periods, but to show both the spider and its web effectively requires a careful study of the location of the web and the lighting.

August and September are the months in which tall plants predominate in the flora, and the successful photography of these plants is far more difficult than

ASTER UMBELLATUS A. BROOKER KLUGH

HERONRY — DONALD W. GILLINGHAM

that of the low-growing species which form the main component of the flora earlier in the year. These tall plants are difficult to photograph for three reasons. Firstly, because of their height they cannot be protected from wind by the use of a silk tent such as can be used most effectively for low-growing plants. Secondly, they usually grow in masses, and not in well-defined groups as do many of the spring and early summer plants, so that there is no natural beginning or end to a group. Thirdly, a large number of species depend for their effectiveness more on their color than on their structure, so that "black and white" photographs of them are usually disappointing. The best way to photograph these plants is to work very early in the morning, before the wind has started to blow, to select specimens which show the best grouping, and to use appropriate color-filters.

PATIENCE AND PERSEVERANCE IN NATURE PHOTOGRAPHY. — I have frequently pointed out the need for patience and perseverance in nature photography, and I have recently had an experience which bore out the correctness of my contentions. Touring through the north country I came across some very fine specimens of the Hobble-bush (*Viburnum alnifolium*) in full flower. I got out of the car, selected a well-placed branch on one of the shrubs and set up the camera. There was a slight breeze and the branch was swaying most of the time, with brief periods of quiescence about every five or ten minutes. Also there were black flies, thousands of them, and all extremely thirsty for blood. At first, as I waited for the branch to remain quiet for a few seconds, I had several interested spectators, but, one by one, they retired to the car and shut themselves in to escape the ferocious attacks of the black flies. I "stuck it," however, until I got the opportunity to make an exposure, and finally secured an excellent picture of this attractive species.

OUR ILLUSTRATIONS. — The picture of the young pronghorn by P. A. Smith is a very good piece of work,

YOUNG PRONGHORN AT THREE MONTHS — P. A. SMITH

the lighting, pose and arrangement all being very successfully managed.

The heronry, by Donald W. Gillingham, is a very interesting photograph, and shows, far more effectively than any verbal description, the gregarious nesting-habits of herons.

The photography of the nest of the chimney swift, by C. Macnamara, shows the structure and placing of this unique nest extremely well.

The picture of the uncoiling fronds of the cinnamon fern, by James F. Bennett, is a good piece of nature work. It shows the form of the young fronds and their woolly nature, and the background is well handled.

The tall plants of autumn are not as easy to photograph effectively as the lower plants which predominate earlier in the season — or reasons which have been pointed out above. In the picture of the tall white aster, *Aster umbellatus*, two isolated plants were selected and an "in-focus" background was used so as to show its habitat among the cedars

NEST OF CHIMNEY SWIFT — C. MACNAMARA

The Cine Amateur

KARL A. BARLEBEN, JR., A. R. P. S.

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AIRPLANE CINEMATOGRAPHY FOR THE AMATEUR. — The sight of an airplane in the skies is a common occurrence these days, and anyone may, for a slight consideration, hire a plane for a few minutes' ride. Air photography suggests itself to many professionals, but I wonder how many amateur cinematographers have ever considered taking their cine camera with them on a short hop. Air photography is by no means new, that is, professionally. With amateurs, however, air shots seem to be rather scarce. Possibly the amateur has not realized what new wonders open up before his camera aloft. An entirely new field presents itself to the amateur. He can obtain a type of picture which, while not exactly new, will prove very interesting entertainment.

The airplane is no longer a novelty, and there is hardly a community that does not boast of an air field and a few planes. Hence it becomes very easy for the cine amateur to hire a plane for at least a few minutes and obtain some striking movies taken from the air. Such air pictures will inject that often necessary novelty into the home films, and will not only be a source of pleasure in the taking, but also in the showing, time after time.

The cine amateur can have no better flying cine equipment that what he already has, viz, a motor driven, hand-held camera. The old time professional cinematographers had to build stagings and special harnesses in the airplane in order to mount the hand driven camera firmly in the machine. Tripods were rarely used, due to the cramped space in most ships. To-day no one ever thinks of using the cumbersome hand-driven cameras in the air except for some special work where more film is needed than the motor driven cameras are capable of holding. Now all that is necessary is to hold the cine camera in the hand, aim it at whatever is to be photographed, and press the button. No tripod is needed, no braces, no fuss of any kind. Perfect freedom is guaranteed during the flight.

I personally believe strongly in the small, portable, motor-driven cine cameras for air work. The motor relieves the amateur of the duty of cranking by hand — often a difficulty in many planes. No space is taken up with tripod legs, no special attachments need be built, and above all, nothing interferes with the comfort of the cinematographer while working. During a visit to the East Boston Airport a while ago, I was interested to note the number of flyers as well as pilots who used movie cameras. In the standard 35 mm field, Eyemos and DeVrys were used without exception. One well-known pilot told me how he used an Eyemo mounted upon a stick which he kept in the cockpit with him at all times. With this equipment he was easily able to shoot anything he desired by merely swinging the stick with the camera attached to the desired position and pressing the motor button. While this was going on his legs controlled the "joy stick" or operating handle of the airplane. Thus he was enabled to photograph from a plane while flying solo. For the regular run of work, two men usually fly together, one attending to the ship and the other to the pictures. Oftentimes such combinations prove unsatisfactory, for a pilot to be of any use to a photographer must know something of photography in order to be able to swing the ship in the proper directions and at the proper times. An ideal "photo ship" crew will consist of a good air photographer and a clever pilot who understands the photographer's wishes and can handle the plane accordingly. I have heard that some photographers have remained up in the air for hours without being able to get a single foot of usable film, simply because the pilot was not in sympathy with the work at hand.

I have dabbled a bit in air work, and have had the good fortune to find a good pilot who did his level best to give me every opportunity to get good views. His landings were excellent, in fact it was difficult to tell when we landed, so lightly and easily was it accomplished. Once the amateur has found such a man, he will do well to adhere to him in the future. Some of the things the pilot should know include the angle of the sun, how you want your light, what you want to photograph and from what position. High, low, straight on or at an angle, these things must be talked over before ascending, for once in the air, conversation becomes difficult in the average plane. Of course cabin ships make this a bit easier, and some helmets include speaking tubes which connect with the pilot's headgear. But these are exceptions. On my trips I have used a DeVry standard gauge camera with complete satisfaction. With this camera, the strap can be placed around the neck in such a manner that perfectly steady pictures are easily obtainable. The Eyemo, of course, makes good use of the handle grip with the strap fitting snugly around the wrist. With 16 mm cameras that are not provided with such straps, care must be taken to see that the wind does not tear the camera out of the hands. It might be advisable to make a safety strap and attach it to the camera. As for the Filmo, the regulation Eyemo hand grip may be purchased separately and used with equal success in the same manner as the Eyemo. For the Cine Kodak of the model B type, a small strap will be found useful.

In air photography, as in other branches, a definite plan should be made out and followed. Shooting here and there promiscuously will result in a series of meaningless scenes as a rule. Make some definite object the goal, and stick to it and follow it out as best you can. No special equipment will be needed for this work, although a telephoto lens and a filter or two will be found to come in handy very often — especially the filter.

In airplane photography, one must usually contend with atmospheric haze. On some days the air will be quite clear, while on others there will be a decided haze which often is quite dense. Naturally, as clear a day as possible should be selected for air pictures, thus ensuring the best possible results. In any case, however, a filter will be found to be very useful, for on the clearest day, haze will be present, at least in the far distance. A good filter and panchromatic film will help wonderfully in cutting haze. This is something to be remembered. The placing of a filter on the lens need not bother the amateur to any great extent, as far as exposure goes, for from an airplane, a great expanse of view is usually covered by the lens, allowing a maximum amount of light to reach the film. If the day is at all sunny, *f*:8 or even *f*:11 can easily be used, even with a two-times filter. In regard to filters, it

might be well to mention that this important accessory should be of the type that can be securely fastened on the lens, for the type that is held on by means of a spring clip will stay there only a few seconds in the face of the stiff wind that will usually be encountered. The type that screws into the lens mount is as good for air work as can be obtained.

A long range lens will not be an absolute necessity, unless some special type of work is contemplated. The regular one-inch lens on the 16 mm camera and the two-inch lens on the standard gauge camera will be found sufficient for all general purposes. If extremely large pictures are needed, a telephoto lens will of course help, especially where it is dangerous to fly too near the ground. Regardless of the lens used, it is always set at infinity, and with the diaphragm stopped down, needle-sharp pictures are assured with the cheapest lens. The smallest details can usually be picked out on the film after development.

Many people may think of vibration in connection with an airplane. I have found this to be almost negligible, but of course this all depends upon the type of the plane and its condition. Some will rattle and shake the camera in spite of everything the photographer can do, while others will ride as smooth as a cloud. In this matter, also, the automatic camera has a decided advantage over the bigger hand-driven type. The motor camera can be easily held in the hands, and braced against the body or cheek in such a manner that the vibration — should there be any — is absorbed before reaching the camera. The motion of the plane cannot of course be counteracted, but this is perfectly permissible on the film, for it gives an accurate reproduction of the plane's flight. Just as we are accustomed to seeing ships at sea heave up and down, so is it natural and pleasing to see the motions of the plane in flight. Don't worry about that, for nothing can be done to alter it. The best that can be accomplished in this matter is to have a pilot who will do his best to keep the ship as steady and smooth as possible.

Air cinematography is a fascinating field, and the amateur can obtain some very interesting films from the air if he goes after them in the proper manner. Flying to-day is an accepted fact, and few people indeed hesitate to go up in a plane. There is a great future in aerial photography, and while something has already been done along this line, the field is far from crowded. There is yet much to be done, and the amateur can do his share by making a study of it.

New Methods of Make-Up for Pan Film. — There is no question but that the introduction of panchromatic film has created quite a "stir" in studios. Especially is this true regarding make-up. Everyone is advancing theories and ideas, and experiments are being arranged every day on the Coast. The old method of movie make-up is receiving a severe jolt these days. Test after test has proven that a new system of make-up must be used. Max Factor, for years a manufacturer of make-up for stage as well as studio use, has come to the front with a brand new series of colors and paints made especially for motion picture use in conjunction with panchromatic film. Since pan film registers colors in nearly their correct tone values, grease paint must be used that corresponds to the actual flesh tints of the face if natural results are to be expected. This is logical, and it is from this angle that Mr. Factor is working. Already he has devised a system of paints that is in general use in the studios, and for those amateurs who are interested in this sort of thing we give the paint numbers of the new series of make-up sticks so that the amateur may make tests of his own at home. These numbers refer to Factor Make-up Paints.

TYPE	PAINT	POWDER	LINING	LIP ROUGE
Blonde	22	22	21	6
Brunette	22	23	21	6
Dark	23	23	22	6

This is for "Girl Juvenile." "Men Juvenile" numbers run like this:

Blonde	25	25	21	5
Brunette	25	26	22	5
Dark	26	26	22	5

Grease paints, as you no doubt know, go by numbers as well as names. The above figures represent the special color that should be used for the different types of complexions.

Make-up can be divided into two general classes, one with a water base and the other with an oil base. Of the two, the oil base seems to prove more satisfactory, for it stands up far better under all conditions, and yet allows freedom of the facial muscles, while the water base soon dries and cakes on the face, making really a stiff mask under which the actor cannot feel free to register facial expressions. The grease paint is much more flexible, and when properly applied to the face acts as a sort of "second skin tissue" which follows the natural lines to perfection on the face. An actor should not be, or act, conscious of the fact that he wears make-up, for where this happens, unnaturalness results. Hence the advisability of using a paint that feels natural. With the old make-up, re-powdering, which was often necessary during the course of the day, tended to make the paint a shade or so lighter, thus changing the effect in comparison with the original make-up put on earlier in the day. With the new make-up, however, re-powdering can be safely attended to without fear of discoloring the original paint, for the powder is very nearly the same color as the paint.

Make-up is still an art, but it also is a fascinating study, and the amateur cinematographer who has a leaning in that direction can obtain some very useful information by making tests in his own home with a small light or two, panchromatic film and this new special panchromatic grease paint. If we wish to keep up with the times, we must try out all these new articles and ideas that come to our attention. Just at present panchromatic film, incandescent illumination, and new methods and styles of make-up hold the attention as something brand new and interesting. The wise amateurs will interest themselves in these new phases.

Some Necessary Accessories for the Cine Amateur. — Every cine amateur has, naturally, a camera, and in nine cases out of ten, a projector as well. With these two instruments, the amateur is well equipped to make motion pictures and reproduce them on a screen in his home. While the camera and the projector comprise the absolute essentials for amateur cinematography, many other additions assist materially. In fact the amateur with his bare equipment soon discovers this fact, and then the hunt for accessories begins. Right here it might be well to mention that there are accessories and accessories. Some very practical, almost to the point of being a necessity, while others are merely novelties, made to sell at a price. So the amateur must exercise judgment in his selection.

As a rough outline of what may be purchased as additions to the amateur cine equipment, we might well begin with camera accessories. Lenses are most

important, and the amateur is indeed handicapped who must work under all conditions with only his one regular lens as supplied with the camera. Understand, it is entirely satisfactory, but its range is limited. As for extra lenses, we might mention two distinct types that will be found to be of great value to the amateur who makes a serious study of his hobby. One is the speed lens, and the other a telephoto lens. One of each will bring the value of the cine camera up to the point where the owner can obtain pictures of practically every and anything he selects. Dark days, interiors, long distance scenes, and the like are all possible. Speed lenses come in many varieties. They may work at *f*:1.5, *f*:1.8, *f*:1.9, *f*:2, or *f*:2.5. Telephoto lenses range from six inch focal length down. (Bear in mind that the six inch lens on a 16 mm camera equals a twelve inch lens on a standard gauge camera. Just what make, size, or speed to purchase, depends entirely upon the amateur, although we can say that all lens makers offering lenses for 16 mm cameras are known to be absolutely reliable, and the selection comes down to merely personal opinion.

In connection with lenses, we might mention a rather new feature which consists of a supplementary lens which produces grotesque and humorous results on the film. This device is known as a "modifier," and is obtainable from one of the largest amateur cine supply companies. While it serves no practical purpose, it is, nevertheless, a worth-while addition to the lens equipment, for loads of fun can be had with it.

Another practical accessory — which by the way should be furnished with every cine camera sold — is the exposure meter. The beginner especially needs this very necessary accessory, if such it can be called. The price of any exposure meter on the market to-day will easily be made up by the saving of film through its means. Even after the amateur can judge fairly accurately the exposure for any given lighting condition, there will be times when he will err, and in such cases the meter will prove to be valuable. If for nothing else, it should be used as a check on the judgment. Many attractive meters are offered, any of which will prove useful provided directions are followed.

In order to carry or store the taking equipment, a carrying case should be used, preferably one that is large enough to hold the entire camera equipment, including the camera, extra lenses, filters, exposure meter, and several extra rolls of film. Several such cases are offered, and the amateur will do well to keep his equipment in one. They are usually made of excellent grade solid leather, plush-lined. Not only is the camera equipment kept free from dust, dirt and grit, but the entire equipment is always at hand when wanted. There is no need to look around for this part or that thing — everything is in its place, and that is in the camera case.

Naturally every amateur should own a film splicing and rewinding outfit. After a film has been projected, it must be rewound, and while this is possible on most projectors, it is usually slow, whereas a reel can be speedily rewound on the rewinder without any trouble. The film is very apt to break or crack, and then the splicer comes in handy. Then, too, if film editing and titling is contemplated at all, such equipment is vital.

When we come to projection, accessories are not nearly so numerous, yet there are some very excellent articles that can be well used by the amateur. For example, there is the little pilot light, whereby the amateur can see what he is doing in threading his film in the projector during a show without the need of putting on the regular light in the room. This light can be turned off or on at will, and also swings out of the way when not in use. Another idea is the color discs which may be used to tint the pictures on the screen any desired color by the mere press of a button or flip of a lever.

We could continue to mention accessories until you had spent many dollars — mentally — but this time we shall let you off easy. The amateur can use the greater part of the offered accessories to good advantage. In fact the lone camera and projector soon show their limitations after a few rolls of film. For the most excellent work, for ease and comfort, and for difficult scenes, some accessories are an absolute necessity. For example, the amateur who wants titles, and can spare the time to do them himself can do so with a Character Title Writer. His titles can be compared to those made professionally. Artificial lights, either arcs or incandescents, are always useful to every amateur, for he never can tell when they will be needed for something important. The point is to know what is practical and what is not — at least as far as the beginner is concerned.

Answers to Our Movie Test Questions of Last Month. — Well, how did you make out with the set of questions? Some, admittedly, had reference to professional work, yet these were considered fair in view of the fact that professional cinema activities are almost as well known to the amateur as amateur activities, as most all movie journals, whether for the amateur or professional, give the answers to the majority of our questions in most every issue. However, let us check up our list of answers and compare them with the answers.

1. 16.
2. 40.
3. Fox-Case Movietone, Vitaphone and Phonofilm.
4. Because there are but 16 pictures per foot of standard film, and 40 with 16 mm film, hence the difference in footage needed for the same number of pictures.
5. The distance between the projections lens and the screen.
6. Acetate.
7. No.
8. Orthochromatic film is sensitive mainly to blue and violet light, while panchromatic film is sensitive to practically all the colors.
9. Faulty threading of the film in the camera gate or sprockets.
10. Acetate.
11. No, it is merely an optical illusion.
12. Persistence of vision.
13. Japanese lens cleaning tissue.
14. No.
15. Dull or emulsion side should face the lens.
16. Yes.
17. Positive film.
18. The holes running along the sides of the film.
19. 180 degrees.
20. About one-thirty-second of a second with the shutter open at 180 degrees.
21. Yes, but it is not commonly used.
22. An exposure meter.
23. A visual or monotone filter.
24. 16.
25. Faster.
26. By using a filter.
27. Talking picture.
28. 25 mm or one inch.
29. Exposing the same strip of film two or more times.

30. It jerks the film down before the lens, one frame at a time.

31. By optical printing machines.

32. Step and continuous.

33. Overexposure on certain portions of the picture.

34. A filter that is clear glass at one end and gradually deepens in color at the other end.

35. Famous-Paramount-Lasky, Universal, Metro-Goldwyn-Mayer, F. B. O., and Fox.

36. Akeley, Bell and Howell, and Mitchell.

37. American Society of Cinematographers.

38. Yes.

39. Rendering the emulsion of the film more sensitive.

40. Paramount, Pathe, M-G-M (Metro-Goldwyn-Mayer). The other three consist of Fox, Kinograms and International.

Junior Scenarios for Home Movies — (Published by the Eastman Kodak Company $1.50) — Progress apparently is not confined to flights over oceans and pictures radioed across continents. It was not many years ago that children were glad enough to have mothers read Mother Goose stories and fairy tales to them; but now it seems the proper thing for children to make these same stories into movies out in the back yard.

The chief evidence is a new book, "Junior Scenarios for Home Movies," with its cover colorfully studded with familiar child-story figures and with its contents consisting of detailed instructions for filming at home a dozen masterpieces of childhood ranging from "Little Miss Muffet" in 30 feet to "The Golden Goose" in 530.

The mechanical age is really at the root of this turn of affairs. Tens of thousands of American families possess their own simple motion picture cameras and projectors. This means that hundreds of thousands of children have become family movie stars.

The result has been of late a good deal of scurrying to find simple playlets as "vehicles" for the children's appearances before the home movie camera. Children and grown-ups alike appear to better advantage when they have a definite part to play before the camera than when they merely pose.

"Junior Scenarios for Home Movies" has an introduction which tells briefly but completely all that a home movie "director" needs to know to make simple photoplays: such improvised settings and costumes as are necessary; the elements of photoplay technic; what titles are necessary, etc. The scenarios themselves describe exactly what to photograph in each scene — for any photoplay is a succession of short scenes — and for each scene is indicated the proper location, costumes, properties, and film footage.

There is a scenario appropriate for almost any group of children, with such plays as "Little Miss Muffet" and "Jack be Nimble" for a single little boy or girl, with "Hansel and Gretel" and "Tweedledum and Tweedledee" and others for two or three children together, and with "Simple Simon" and "The Golden Goose" and others for a neighborhood group of children. The other scenarios in the book are "Pandora's Box," "Old Mother Hubbard," "Little Red Riding Hood," "Goldilocks and the Three Bears," "The Old Woman Who Went to Market," "Buddy's Birthday Picnic," and a "prelude" scenario, "A Bedtime Story for Dolls," which may be used to link together any of the others.

It looks as if another generation will get out the family projector and be regaled with movies of grown-up Donald and Esther's interpretation of "Hansel and Gretel" away back in 1928 when they were children!

Panchromatic Film now Offered by Eastman Kodak. — Panchromatic film is now available of the famous Eastman Kodak make. This film, long expected, marks another advance in amateur filmdom. Pan film comes in the conventional yellow carton, but is distinguished by a green band running around the edges of the carton. The regular film retains its original carton of yellow throughout. The new pan film is also of the reversal variety, just as is the regular film. Naturally the pan film is a bit more expensive, being $7.50 per roll, including processing.

We now have regular film and panchromatic film, in both the reversal and the negative and positive varieties. The Kodak film is entirely of the reversal type, while the DuPont film may be had in either reversal or negative and positive.

The cine amateur will do well to at least try out a few rolls of panchromatic film in his cine camera. It is all a matter of individual selection, yet in Hollywood, around ninety percent of the negative film used in production pictures is of the panchromatic variety. A yellow filter will be found especially valuable when used in conjunction with pan film. Give it a trial.

An Aid to Film Editing. — Directors and film editors have for years used especially designed projectors in their cutting rooms with which they run the film and view in. These special projectors are not of the conventional type with which the average amateur is acquainted, in fact, they do not resemble a regular projector at all. These cutting projecting machines are small, box-like contrivances, in which a mazda lamp is installed. A regular intermittent movement, however, is included in the box, which performs the duty of stepping the film down one frame at a time as is customary in the regular projector. This projector does not project a picture on the screen. A special large lens is supplied and placed over the aperture plate, through which the film may be observed by the cutter. It might be called a one man projector, for that is all it amounts to. Some of these machines are driven by hand, by means of a crank, but the later-day models are motor driven. A switch located on the floor is controlled by the cutter's foot, and the machine can be made to go forward or backward at will — a necessity in film cutting. The cutter merely sits in front of the box, threads his film in the gate, turns on the light in the box which furnishes the illumination with which the film is seen, and the switch turned on. At once the film begins its travel through the machine, slowly or swiftly, as the cutter or director wishes. One frame at a time may be viewed if desired, and the film may be stopped at any frame in the film. In this manner film if viewed for cutting and titling purposes. While the film is being thus viewed, bad places, "N. G." scenes, and places for titles are easily found. At such places the switch is turned off with the foot, and the film is stopped at once. It then may be cut, spliced, or titled, after which the film once again continues on its journey. Oftentimes a film will travel through this projector many times before it is considered finished.

These projectors are used continually in production and newsreel studios and offices where proper projection facilities are not obtainable. Often the regular projection room will be in use, during which times the special projector can be used to advantage. It eliminates all eye-strain, and in a way is better than actual screen projection, for it allows each and every frame to be examined closely. It is the film cutter's best friend.

And what has all this to do with the cine amateur? Simply that a special model of this cutting projector is

now available in the 16 mm film size. It is called the Moviola Model K, and has just been placed on the market. With its aid, the amateur can become his own film editor. He now does not need to use his screen projector for the cutting and titling of his films. He can place the new cutting projector on a table and work at his films. His rewinder, projector, title films, etc., are all handy to him on his table. This is the latest word in amateur filmdom, and merely goes to prove that the amateur is daily getting nearer and nearer professional methods.

A New Amateur Cine Outfit. — The latest addition to the field of amateur movies consists of a unique machine which is both camera and projector in one. It is the new QRS combination camera and projector. Details are as yet unknown, but from what we hear, it will be something of a sensation, as the entire outfit will cost but $98.50. The QRS Company is well-known as manufacturers of music rolls and radio and rectifier tubes. A new camera department was recently organized, and the resultant product is being looked forward to with interest.

Amateurs Voice Appreciation of Better Commercial Movies. — Amateur approval of recent progress achieved in commercial motion pictures is voiced in *Amateur Movie Makers*, voice of the non-commercial motion picture makers of the world, and organ of the Amateur Cinema League. The quality of the better American photoplays is showing marked improvement and their number is increasing rapidly, it is declared editorially.

"Since each year brings to the screen something like eight hundred photoplays, we cannot be concerned so much with averages as with exceptions," it is stated. "But, as with book-making, photoplay producers have a wide market, and since the quality of American literature is not determined annually by its best sellers but by its highest types, so the quality of American films must be estimated by its best and not by its worst. The great populace boils the pot both for publishers and film producers. Until comparatively recently the quality of the movie stew was pretty much food for the masses with no provender for the intelligent, while the publishers offered both "slum" for the general and caviar for the particular. The photoplay situation is now changed, we believe, and the intelligent photoplayfarer can find films to his liking, just as he can, being a book buyer, find books to suit his taste.

"The old cry for 'bigger and better films' was a stupid slogan. Producers seem to have learned that bigness and higher class were not verbal brothers. At all events, bigness has given way to growing excellence in the latest exceptional American films. We have had a fine sample this last year and we hope for much from the 1928 films."

Flashes. — A lens should remain for an indefinite time in as good condition as when it leaves the manufacturer's hands, provided a few simple rules are observed, to which we draw attention.

Protect the lens as much as possible from dust and finger marks.

Keep the cap on lens when not in use.

Do not subject it to sudden and extreme temperature.

Do not expose to the heat of the sun or of steam pipes.

Avoid damp places.

Never use any sort of polishing material, alcohol, or other solvent on the lens or lacquer.

Never use acids of any kind for cleaning.

Do not allow it to fall or get a sudden jar.

Occasional cleaning is not only advisable, but also very necessary when the lenses show dust, finger marks, or moisture on the surfaces.

To clean, use a well washed linen handkerchief only. If dusty, blow off the dust first, then wipe. To remove finger marks or moisture, breathe upon the surface, and wipe; always wipe lightly, and with a circular movement; a camel's hair brush is convenient to remove dust before cleaning, and afterward to remove lint.

If the inner surfaces require cleaning, the utmost care should be observed to remove the lenses one by one, clean and replace before others are taken out.

Should the lenses or mounting require more attention then the above, do not entrust the same to any but the maker.

Hollywood and the 16 mm Film. — Motion picture amateurs were few in number four or five years ago because the only apparatus and processes available were cumbersome and expensive professional ones. The appearance of dependable and inexpensive 16 mm equipment by which pictures can be made for a small fraction of previous cost has made thousands of enthusiastic amateurs. Not satisfied with making portrait and record films, the amateur has interested himself in dramatic productions. This tendency was foreseen by a film library organization which answered the need by supplying dramas and other matter upon which a well-rounded program of entertainment could be built.

A subsequent development was the outright sale of films of various types, although at present the tide seems to be turning toward rental rather than sale of most subjects.

New tendencies are shown in releasing film under various contracts such as a coupon block booking plan, as news periodicals, or as a "film of the month." Advertising films are being loaned upon payment of postage.

One producing company has been formed exclusively for the preparation of subjects for 16 mm releases. Other producers and distributing companies are looking to 16 mm distribution for increased return on features which have appeared in the professional field.

Amateur motion picture photography utilizing 16 mm film is rapidly taking its position in a new field not in competition with professional work, in co-operation with it. Those interested in the future of professional photography can give attention to these new developments with great profits. — J. B. Carrigan.

CINE QUESTIONS AND ANSWERS

Question: What is a "quickie"? This is a term I've heard and read several times, but cannot seem to figure out its meaning. *Answer:* A quickie is a motion picture, anything from a one reeler to a big feature production, that is made by a small, obscure company. Productions from "poverty row" are usually quickies. This term comes from the fact that these pictures have to be made in as quick a time as possible, due to the financial conditions of the company. Often a feature picture is made within a week's time, the company working day and night in order to save expenses. This term is, however, by no means degrading, for some very outstanding pictures were made by the "quickie" process.

Question: What is a "cold movie"? *Answer:* This is another term peculiar to the profession. It simply refers to the projection of a picture without musical accompaniment. Pictures screened in studios and exchanges are projected in small "projection rooms,"

seating anywhere from five to twenty people. The picture is screened in silence for the benefit of the production company, theatre owner who wishes to book it, or any other individuals who are interested. Most pictures are vastly improved by the musical accompaniment, and a picture that can "get over" without music, or "cold," as the term goes, is in a fair way of being a success. Showing a picture "cold" is one test of its merit.

Question: Could you tell me if the Debrie camera is made here in America or in France? *Answer:* Debrie cameras are made in Paris, France. Willoughby's, New York City, is the sole American distributor.

Question: In regulating exposure, is it better to use the lens diaphragm or the shutter blade? *Answer:* For general work, the lens should be stopped down rather than the shutter, for by so doing greater depth and sharpness may be obtained. However, in studio work, the cameraman often cuts his shutter down rather than close his lens, for by doing this he can get rather soft effects which are sometimes desirable in feature production work. The average amateur will hardly ever come to this point, so we advise the stopping of the lens.

Question: Could you give me the H. & D. speed of regular standard width positive film? *Answer:* Exact figures are unavailable, but it is safe to say that positive film is considerably slower than ordinary negative film. Eastman Kodak negative Par Speed film is rated at 250 H. & D. — according to this, positive film must be somewhere around 50 or 75 H. & D.

Question: Are there any other brands of film in this country besides Eastman Kodak and DuPont? *Answer:* Yes, Goerz, Agfa, Gevaert and Bay State.

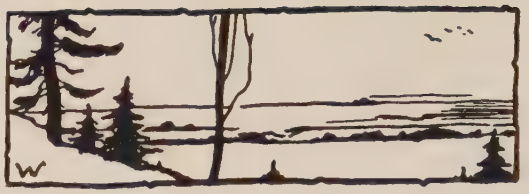
Question: Where can I obtain the fundamentals of making movies of microscopic objects? *Answer:* There are some excellent books on the subject among which are: "Elementary Photomicrography" and "Handbook of Photomicrography." For the beginner, however, I would suggest "Photomicrography," a booklet issued by the Eastman Kodak Company. While these books deal with still photography, the same principles can be applied to cine work.

Question: Of what are the special green safelights, used for panchromatic film, made? *Answer:* The Wratten Series 3 safelights are made of a sheet of glass coated with a bright yellow gelatine film and another sheet coated with a bright green film, bound face to face with a thick sheet of green paper between.

Question: Where can I obtain flares with which to take movies at night in the open? *Answer:* Meteor Flares may be obtained from John G. Marshall, 1752 Atlantic Avenue, Brooklyn, New York.

Das Arbeiten mit Kleinen Kameras. By P. Hanneke. W. Knapp, Halle. Price, paper $1.00, bound $1.25.

This is an excellent little treatise dealing with the use of small cameras, which the author limits to those smaller than $6\frac{1}{2} \times 9$ m., $2\frac{1}{2} \times 3\frac{1}{2}$ inches. A special feature is a classification of the German makes with brief descriptions of the lens, shutter, construction material, etc., which is decidedly good. The instructions for processing are up-to-date, as are also the descriptions of the various developing and enlarging outfits. A thoroughly practical handbook to its subject. — E. J. W.



Words from the Watchtower

BY THE WATCHMAN

Some months ago no little comment appeared in the daily press on the plan of the big motion picture producers of making a 10 per cent cut all round in salaries on the ground that production expenses were too high. The biggest howl was put up by those who are not paid but "receive emoluments" and the plan fell through. But the producers got even, for many of these high-priced artists are resting and hardly a week passes but one finds announcements of new and lesser stars arising, obviously at lesser salaries. Many of the studios at Hollywood were closed down and there was a general slump. The real reason for all this pother was that the producers have been doing their best to kill the business by bringing out inferior pictures and forcing them on the public, not only here but in Europe, by the system of block booking, under which theaters are compelled to take all productions, whether good or bad.

There has been a very strong feeling aroused in Europe against the American films or the methods of the producers, and Great Britain, Germany, Spain, Poland, Czechoslovakia and other nations have adopted or are about to adopt rather stringent regulations as to the importation of films made on this side. The most drastic plan was proposed by France and Mr. Will Hayes, who is journalistically called the czar of the movies, went over there provided with a very large teapot of oil to calm the troubled waters. When one considers that more than 30 per cent of the gross income of this industry here is represented by the sums paid in Europe it will be understood that no little perturbation was caused, and while the French terms are not so drastic as first proposed, the final arrangement will mean considerable loss of revenue. The other nations will also follow suit and the end is not yet in sight. That French producers have some cause for complaint is proved by the following figures for last year: of the long pictures shown, 413 in all, 245 were American, 81 French, 52 German, and 10 Italian, etc. A ratio of 59% to 19% is discouraging.

Reverting to the star question, personally I can not understand how people can run after a star. I go to see a story and care as much about the personalities of the artists as the value of the hole in a doughnut. If the story gets across and the photographic technique is good, I don't care whether the Queen of Sheba and Solomon, or Sally the guttersnipe and Iago the wop are acting. But the average movie fan seems to revel in a long list of the cast and can descant as to all the pictures that their fancy has appeared in since he or she wore short pants. This peculiar epidemic is not confined only to motion pictures, as evidenced by the statement of M. Pierre Monteux, the French orchestral leader, who stated at the close of his season as guest conductor of the Philadelphia orchestra that "Americans are star-crazy." Precisely the same thing is to be met with in other fields.

I had recently to attend a show when something of this sort appeared on the screen:

A Crewel Tail
Presented by A. D. Onkey
Scenario adapted by Pen Pusher
Cast

This was a list of forty-nine names — more or less — so that by the time it disappeared you were in a delightful state of ignorance whether Mary with the tights and breast-plates or Vulga without these accessories was the vamp or the butter-would-not-melt-in-her-mouth innocent.

Directed by M. T. Head
Photographed by K. M. R. Man
Titles by Wan O'Taste
Costumes by U. N. Dresser
Musical score by List Backhoven
Printed by Larry T. Linotyper
Developed by N. M. Cue
Fixed by H. Y. Po.
Washed by H. Two O
Literary Research by Ann Ass
Licensed by The Man who Slept.

There followed a lot of close-ups of all the cast, the whole show so far taking about 10 minutes. Then at last followed the picture, which took 15 minutes, though you would not have thought so as some painted slides — no I wasn't going to say hussies — passed across the screen, telling the poor fools who like me had paid their half dollar the complete plans for the next thirty days. If I'd had my way I'd have given some one thirty days hard labor or solitary confinement.

Had I to show pictures I think I would throw on the title and rattle through the rest of the film, cutting out all titles, sub-titles, and close-ups and let the audience guess at the cast and how much make-up Mary or some other dame had used and whether she had paid for it or it had been presented to her by some enterprising manufacturer that provides the skin you love to touch or puts up embattlements, redoubts and forts on the danger line. Close-ups always make me think there must be a special breed of girls that enter the movies, for their mouths and eyelashes differ from any that I ever see in nature.

Things have changed of late years. The modern woman seems to have forgotten among other things that the human knee is a joint and not an entertainment. The present-day skirt or want of it is giving a lot of trouble to artists as well as portrait photographers and it is rare to see a full-length oil or photograph. Chatting with a well-known portrait photographer the other day, he admitted in answer to my question that he had not solved the problem of suppressing the too-evident leg and knee, but that he had gotten round it either by merely taking half-lengths or insisting on dark dresses and stockings which he could merge by suitable lighting or want of light into the background. The vaudevillian skirt, or want of it, has become too firmly fixed as a fashion to be readily eliminated or possibly one should say easily lengthened.

Some people obviously have more money than sense and more than they know what to do with, while others like me could do with a little more money without any serious detriment to our soul's welfare. Some one has given the French Astronomical Society funds for an annual prize of 5,000 francs, about $200.00, to be awarded in this and the next two years to the author of the best original work capable of bringing a realization of one of the numerous scientific desiderata tending to the final goal of astronautics, which particular science is defined as the problem of voyaging through space to other heavenly bodies. I venture to suggest that there is a misnomer here and that astrolunatics should be more correctly the title of this science. Considering the difficulties that have been encountered in traversing the seas of this miserable little speck of cosmic dirt, to dream of getting through space seems more than a waste of time. Still some reader may want a little exercise for his inventive faculties. Imagination, it is said, can go a long way, but whether it can reach as far as a personally conducted tour to Nova Pictoris or Pickering's little stranger beyond Neptune is an open question.

My thanks are due to many correspondents for their letters and I regret that want of space will not allow me to include all here. I content myself with one.

"My dear Watchman: —

If you really meant it and was not funning about that BOSTO label at the fancy dress ball, which translated into Shy N, and you assert you failed to "get," I suggest you consult the atlas volume of the Century Encyclopedia, page 71, of the index to modern maps. There you will find a very complete assortment of *Cheyennes* in varied places.

Man down this way wishes to know how old your office cat is and what is the expectancy of life that lucky animal has. Says he knows how to meow quite well and is sure he can improve with practice.

Walrus croaked! Some of us will miss his chatter! Sic transit gloria Mundi, or Tuesday or any other old day.

The specimen of verse, blank verse and —— blank at that suggests Bobby Burns' line "partly she was with love o'ercome and partly she was drunk," or on second thought, possibly that was the trouble with Larry the linotyper when he handled that piece of copy."

The vagaries of pronunciation are notorious, but I thought they were confined mainly to English names. Here's one for my correspondent — How do you pronounce Marjoribanks? Certainly if Cheyenne is correct it seems a waste of four good letters. Still, in answer to the query, even I occasionally use my head for something else than to keep my ears apart.

Buzz is rusticating in his summer cottage, hence I can not question him but I should say he was betwixt and between. As to the blank verse there was no error in the setting, I saw to that.

Photographic Review

E. J. WALL, F. C. S., HON. F. R. P. S.

THE COLOR OF IMAGES. — MM. A. & L. Lumière & A. Seyewetz point out that the colored images obtained on development may be black or brown or bluish-green with high speed emulsions; whereas with slow ones yellow, red or violets may be obtained. These latter colors are dependent on the duration of exposure, the dilution of the developer and the duration of development. With very dilute developers the silver grain is very fine and of a yellow color, which passes through red, brown-violet, brown-black to bluish-black. If the size of the grain is the sole determining factor of the color it is possible to dissolve the image without leaving a trace. But if it is partly due to the deposition of the

oxidation products of the developing agent a residual image is left. When pyrogallol is used with small sulphite content or with prolonged development the negative image is brownish and does not pass through any other colors. At the same time the gelatine, contiguous to the silver image, is hardened and if the silver be dissolved a brown or orange image is left. It was found that with a ratio of anhydrous sulphite of more than 0.9 per cent no yellow color was formed using 0.3 per cent pyrogallol; but with 0.3 per cent sulphite the secondary image is very pronounced. Repeating the experiments with other developers the following table gives the results obtained:

I	II	III	IV
Pyrogallol	yellow orange	10	11
Pyrocatechin	black	10	6
Hydrochinon	yellow brown	10	2
Adurol	yellow brown	10	2
Amidol	reddish-brown	8	2
MQ	yellow brown	6	2
Metoquinone	yellowish brown	5	2
Paramidophenol	brown black	3	2
Metol	brown black	2	
Paraphenylendiamin	black	1	
Glycin	none	0	

Column I gives the developer; II the color of the residual image, after solution of the silver; III gives the relative, visual opacities and IV the quantity of anhydrous sulphite in percentages above which the secondary image does not form. In the case of paraphenylendiamin and glycin the sulphite content has no appreciable action. Using caustic soda instead of the carbonate, the only effect is acceleration of development except with pyrocatechin, with which the caustic gives a brown image while carbonate gives a black one. It was hoped that the residual image would be grainless so that it it might be enlarged without showing, but while without visible grain it is not continuous, thus shows white interstices which show on enlarging. This image is composed of quinonic bodies, which not only insolubilize the gelatine but can act as mordants for dyes and can thus be intensified with the method already suggested (This Journal, 1926, 504), the density thus obtained being greater than that of the silver image itself (*Rev. Franç. Phot.*, 1928, **9**, 75).

Sulphites in the Developer—M. Schiel recalls the fact that it is usually accepted that sulphites not only act as preservatives for the developing agent but also give a pure gray image. It is also known that freshly prepared developer acts more energetically than an old or frequently used one, due to the restraining action of the oxidation products, also that a solution of sulphite soon changes with the formation of sodium sulphate. Crystalline sulphite has theoretically a 25.4 per cent content of sulphurous acid, SO_2, but commercial salts are rarely so pure as this. A plain sulphite solution was made and 10 to 20 ccm removed at intervals, thus simulating actual practice and the sulphurous content of the remainder determined. In 1 day the loss was 2.4 per cent, in 3 days 32.05, in 5 days 87.08 and in 7 days 99.91. With a concentrated MQ developer the loss was 4.6 in 1 day, 19.45 in 7, 27.02 in 9 days. With the same solution diluted the loss was 11.24, 29.77, 61.33 and 98.88 for the same periods. After 7 days the concentrated developer was a faint yellow and the dilute developer showed the same color in 4 days and brown in 9 days. A concentrated glycin developer showed no loss of sulphite in 6 months, while with a concentrated paramidophenol solution the loss was 20 per cent. It was found that more sulphite was used than could be explained on the assumption that the bromine set free from the silver halide oxidized it and probably some combines with the oxidized developing agent. Practically glycin and pyrocatechin are the only agents that can be used without sulphite; the former readily gives dichroic fog; all other developers stain the gelatine deeply. Pyrocatechin without sulphite brings out less of the image than with it and the same applies to other agents. Schiel advances the statement that the increase of bromide and the oxidation products do not play so important a part as is usually ascribed to them when a developer is used more than once and that it is decrease of the sulphite that acts, because of the sulphate formed, which prevents the ready diffusion into the gelatine. Further, the streaks so frequently met with in tank development are due to the same cause and not to the local diffusion of the bromide formed. The content of sulphite also plays an important part in the color of developed prints. The nature of the silver image is important in bromoil and a print developed with pyrocatechin without sulphite does not bleach right out (*Phot. Rund.*, 1928, **65**, 120). The action of sulphites in developers has not been settled by this and previous work of other experimenters and will not be probably till more is known about the oxidized developers. The assumption that the formation of sulphate causes the streaks in tank work may be true, but other evidence is against it. In bromoil it is immaterial whether the image bleaches out entirely or not as long as the gelatine is hardened. As a matter of fact if a print is developed with plain pyrocatechin it can be inked up without bleaching, due to the insolubilization by the oxidized developer.

Emulsion Addition. — The I. G. Farbenindustrie Gesellschaft has patented the addition of iminoazole compounds to gelatine or to the emulsions either during the making or just before coating, for instance, from 0.1 to 1.4 per cent of nitro-benziminazole when added to a gelatine which gives normally slow, foggy emulsions gives clean, fast results. Their suitability is supposed to be due to the fact that the hydrogen atom of the imino group can be exchanged for a silver atom and that absorption compounds with the silver salts are formed (*Eng. Pat.*, 271,475, 1926).

Chloramin T as Hypo-Eliminator. — Eder recommends this as an improvement on sodium hypochlorite, permanganate, etc. A 0.2 per cent solution, or even a weaker one, may be used (*Phot. Ind.*, 1928, **26**, 347). It is not often that Dr. Eder is caught tripping, but here he has ignored the fact that this preparation was suggested for the same purpose by E. F. Shelberg (*This Journal*, 1922, 267, 596), who also gave equations representing the reactions taking place.

Another Developer Patent. — P. Schestakoff has been granted a patent for a developer comprising an ordinary developing agent with nitrous and sulphurous acid salts (*U. S. Pat.* 1,663,959). This use of nitrous acid salts in developers was patented about 1914 and sulphites, bisulphites, etc., have been used since Berkeley suggested them in 1882.

A Wonderful Discovery. — F. Simon has patented a screen-plate to differentiate the different radiations used in radiography. The emulsion is coated on a polychrome mosaic screen, similar to that of the Autochrome plate, but the grains of each color are impregnated with salts of lead, copper and aluminum so that they possess different permeability for the various radiations (*Ger. Pat.* 442,807; *Sci. Ind. Phot.*, 1928,

8R, 71). As the X-rays are situated far down in the spectrum, considerably below the ultra-violet even and as they are not visible one may be permitted to ask how they can be selectively shown by colors, unless one sets up a purely arbitrary scale. It can not be said that they possess color so far as the human eye is concerned.

Deferred Development of Bromide. — H. W. Bennett calls attention to a rather important matter. Some bromide paper was exposed and through press of other work could not all be developed till sixteen days later. Amidol was used and it was found that the image was very slow in appearing on the paper that had been kept and that it was impossible to obtain more than a faint grey image. A fresh lot of developer was tried on the assumption that some mistake had been made in the mixing of the first lot; but the results were no better. When examined in white light the prints showed a good range of tones but with the deepest shadows a light grey. This led to some experiments. Two kinds of paper were selected as it was assumed that the change was due to the action of the paper base. One paper was a cream ordinary paper with the emulsion coated direct; the other was a semi-glossy with a baryta base. Prints were made on each kind, one print being developed at once and companion prints being stored away for development at intervals. The prints developed at the time of exposure were rich, strong and with good gradation. Other prints were developed on the following day and that on the cream paper showed a slight falling off in quality, but on the baryta paper there was no falling off. Prints developed one day later showed a distinct falling off in the case of the cream paper, the baryta ones being perfect. Further prints were developed on the fourth, seventh and tenth days after exposure and the deterioration increased rapidly in the case of the cream paper, while with the semi-glossy the last two prints only showed a slight loss of quality. It is worth noting that the same cream ordinary paper has been kept for nine months and yielded prints as good in quality as when the paper was first received from the makers. Thus the paper base does not seem to affect the emulsion in any way, only the latent image (*Brit. J. Phot.*, 1928, **75**, 200). Probably most of us have at times kept exposed papers one or more days before development without noticing any loss in quality; but this note should be a warning that should not be neglected. The disappearance of the latent image on paper was first noted by Mach many years ago. He used bromide paper for making copies of old manuscripts, etc., and did not develop the same for some months later, with the result that no trace of an image could be obtained, though tests made on the spot showed that good negatives could be obtained. In this case, also, plain paper that is without baryta coating, was used. In the case recorded by Bennett it is possible that the "cream" tint was produced by addition of a dye to the stock, which might have to be taken into account. This is a matter that might well be taken up by some research laboratory.

Automatic Development of Faulty Exposures. — E. Mankenberg strongly recommends the following developer for this work:

Glycin	120 g	920 gr.
Sodium sulphite, dry	10 g	77 gr.
Potassium carbonate	250 g	1920 gr.
Water	1000 ccm	16 oz.

Dilute with 4 volumes of water and add 0.4 per cent of potassium bromide. The temperature should be 18° C. (65 F°). If a Watkins factor of 5 be used good results can be obtained with exposures ranging from 1 to 10,000 and a passable one with 40,000 as proved by the illustrations given (*Agfa-Photoblätter*, 1928, **9**, 341).

Developing Hypersensitized Films. — K. Jacobson deals with the development of cine films hypersensitized as previously noted.

Comparison was made with two developers, pyro and MQ, the composition of the former being as follows:

Pyrogallol	2.5 g	19 gr.
Potassium metabisulphite	2.5 g	19 gr.
Sodium sulphite, dry	10 g	77 gr.
Sodium carbonate, dry	5 g	38 gr.
Water	1000 ccm	16 oz.

That for the latter being:

Metol	5 g	38 gr.
Hydrochinon	6 g	46 gr.
Sodium sulphite, dry	15 g	115 gr.
Potassium carbonate	40 g	307 gr.
Potassium bromide	2 g	15 gr.
Water	1000 ccm	16 oz.

With this last 3½ minutes development gave a gamma of 1, with 2 minutes only 0.55, but in this case development was not complete, hence there would be a loss of detail in the shadows. The pyro developer, being so weak, required 20 minutes for complete development and then had only a gamma of 0.7. It was also found that the top of the characteristic curve was flattened, which practically was an advantage, as the highlights were not blocked up. This is of great importance in night work, for which the hypersensitized film is specially suitable, as it is thus possible to obtain detail in both the highlights and deep shadows with normal exposure and development of the positive. Comparative illustrations of an incandescent lamp show that with MQ the bulb shows as a mere white blob, while with pyro the filaments are visible. It would seem theoretically possible to so dilute the MQ that the same result should be secured, but practically this is not the case, as the time of development is so prolonged as to be impracticable and the half tones are very flat. It is thus evident that for all night work, in which the contrasts are exaggerated it is advisable to use pyro and not MQ (*Phot. Ind.*, 1928, **26**, 398).

Optical Sensitizing of Silver Iodide. — K. Baukloh reports that he has been able to sensitize silver iodide with erythrosin and phenosafranin, although it has been always denied that this was possible. He used not only the iodide formed by fuming a silver mirror on glass, thus free from any vehicle, but also suspended in gelatine. It was also found that a gelatine plate exposed in the dark for a long time to the vapor of mercury, then converted into iodide, was sensitive to the extreme red, thus proving that mercury is a sensitizer for bromide and iodide of silver (*Zeit. wiss. Phot.*, 1928, **25**, 233).

A Universal Developer. — Thermit recommends a multiple bottle system of storing the ingredients of developers, thus:

C.	Sodium carbonate, dry	40 g	307 gr.
	Sodium sulphite, dry	14 g	109 gr.
	Water to	1000 ccm	16 oz.
Q.	Hydrochinon	12.5 g	96 gr.
	Sodium sulphite, dry	15 g	116 gr.
	Water to	1000 ccm	16 oz.
M.	Metol	2 g	15 gr.
	Sodium sulphite, dry	17 g	130 gr.
	Water to	1000 ccm	16 oz.

P. Pyro	4 g	32 gr.
Sodium sulphite, dry	23 g	175 gr.
Water to	1000 ccm	16 oz.

B. Potassium bromide 10 per cent solution

In practice, equal quantities of C, Q and M are right for the average bromide paper; addition of B is necessary but varies. With flat negatives a decrease of M is desirable, and omission or great reduction of Q gives softer prints. For negatives equal parts of C, Q, M and P give good results; for soft fast plates a decrease in M and an increase in P has a marked effect, for quick contrast plates decrease in Q and P is called for and B is rarely needed. Thermit recommends that the solutions should be made up in bulk as follows: C, 40 oz.; Q, 30 oz.; M, 20 oz; P, 10 oz.; B, 10 oz. and says: "it may be asked, why not equal quantities of all, instead of various amounts, which seem calculated to run out consecutively instead of all together? First, equal quantities would not run out all together because sooner or later work will crop up which calls for an altered developer. Then using the mixture for both plates and papers, there is less call on the pyro than on the others. Likewise less bromide is used. Equal quantities of the M and Q solutions might be advantageous, but distinctly-shaped bottles be called for. I find, however, that I use more hydrochinon than metol, though I never turn out contrasty prints. The larger carbonate bottle, again, is mainly a distinction, though at times some extra carbonate seems to induce richer prints. And I find that it is less trouble to re-fill an odd bottle occasionally, than periodically to re-fill the lot." (*Brit. J. Phot.* 1928, **75**, 217). Our usual custom of reducing all formulas to the standard bulk has been followed, nor can we see any real advantage of using bottles of different sizes, unless, of course, one is to rely upon touch rather than sight as to which to use. It would seem also easier to make one job of re-filling, particularly if one has to warm the water to obtain ready solution.

Brown-Black Tones on Bromide Paper. — R. Lluellyn strongly recommends the following method of obtaining these tones; the print is bleached with bromide and ferricyanide as for sulphiding, washed and redeveloped with the following developer:

A. Pyrocatechin	18 g	140 gr.
Sodium sulphite, dry	34 g	250 gr.
Water	1000 ccm	16 oz.
B. Potassium carbonate, dry	80 g	614 gr.
Water	1000 ccm	16 oz.

Mix in equal volumes just before use. There is generally a slight, even creamy coloration of the emulsion, which if objected to can be removed with a 10 per cent solution of citric acid. The advantages of the method are that it gives a good color, such as an artist would use for a mezzotint or etching ink; it is readily repeated and does not depend on the original method of development; it may be varied at will, as the stronger the re-developer the colder the tone; the result is as permanent as the untoned print and probably more so owing to the toughened condition of the gelatine; no smell (*Brit. J. Phot.*, 1928, **75**, 254).

Dye Toning. — H. Evelbauer recommends the following method of varying the monotony of the color of lantern slides and transparencies. The slides must be free from fog and not too dense and it is advisable to slightly reduce them in Farmer's reducer. After washing they are bleached in the following:

Cupric sulphate	50 g	384 gr.
Potassium citrate	75 g	538 gr.
Glacial acetic acid	40 ccm	307 min.
Potassium sulphocyanide	25 g	192 gr.
Water	1000 ccm	16 oz.

The sulphocyanide should be dissolved in a little water before addition to the other ingredients. After 24 to 30 hours a precipitate will form and this should be filtered out. This solution will keep a long time and 200 ccm. (3½ oz.), will suffice for about 3,300 sq. inches of pictures. The slide should be treated with this for from 10 seconds to 3 minutes, though the best results are obtained with 20 seconds only. Washing for a few minutes should follow. The dyes are rhodamin S for red, thioflavin T for yellow and methylene blue for blue, which should be dissolved in water to make 1 per cent solutions and 1 per cent of glacial acetic acid added, then filtered. The following table gives an idea of the colors obtainable:

R.	B.	Y.	Resultant Color
50	2.5	—	reddish violet
50	4.5	2.5	warm violet
50	6	2	
50	6.5	4	Bordeaux red
50	7	2.5	dark violet
50	12	2.5	
50	17	3	
50	40		blue violet
50	—	2	vermilion
50	—	3	orange red
50	—	6	reddish orange
50	1	3	dark orange
50	1	6	
50	3	7	very warm sepia
50	—	2.5	reddish yellow
—	50	2	blue
—	50	4	greenish blue
7	50	2	dark green
7	50	4	
—	50	10	bright green
8	50	10	dark green
50	12	15	various olives
50	12	20	
50	12	25	
50	15	20	

The plate should be immersed for 2 to 3 minutes, then well washed, the reds requiring about 5 minutes and the blues about an hour. If the colors are too brilliant they can be lowered by adding a little of the complementary color to the bath. The whites may be cleared by treating with a 0.6 per cent solution of potassium permanganate plus 2 per cent of sulphuric acid and well washing (*Phot. Rund.*, 1928, **65**, 166). This is but a variant of Lumière & Seyewetz' method (*This Journal*, 1926, **331**). The correct ratio of the sulphocyanide to the copper is 20:26 therefore in the above formula the copper should be reduced to 33 g. (253 gr.) It is not advisable to mix the sulphocyanide with the other ingredients till just before use, as decomposition of the bath sets in, which explains the necessity of filtering out the precipitate which is cuprous sulphocyanide, the active mordanting agent. If the bath is kept in separate solutions a brilliant, green solution is obtained on admixture that tones without any precipitation, if the prints are free from hypo; but as soon as the solution gets cloudy it should be thrown away or the cuprous salt precipitates in the gelatine and it is then impossible to obtain clean whites. Far quicker mordanting is secured if the bath is used at 21° C. (70° F.), as the copper salts tend to harden the gelatine.

Practical Hints

A Device for Copying Blueprints or Documents Without the Use of Plates or Films. — With this simple device, constructed with a few pieces of wood from packing boxes, some nails and a ten-cent mirror, one can reproduce any printed matter such as maps, drawings, soldiers' discharges, and also, which is of even greater importance, blueprints, without the use of plates or films. The result of copying a blueprint on an ordinary plate or film is well known to most photographers, and it surprised the writer when he used a piece of No. 1 P. M. C. in a film holder, in lieu of a film, gave five seconds exposure at *f*:11 using a 1000 watt incandescent bulb for illumination and secured a nice, grey toned print with clear-cut black lines and figures from an ordinary blueprint.

The writer has also made reproductions of soldiers' discharges while the customer waited. The bromide paper can be developed, fixed, washed and dried in a few minutes and as the copy usually is needed only as a proof that the document exists and is real, it does not need to be permanent or to last for more than a few months.

The mirror is placed in the carrier at an angle of forty-five degrees to the axis of the lens and acts as a prism. — E. M. Ball.

Fig. 1 E. M. Ball

Fig. 1 C. H. Rogers

A Camera Appliance. — The difficulties of self-photography with the Graflex type of camera can be easily overcome at very little expense by the use of a small piece of 1/16″ gauge brass plate, two dressmaker's snap fasteners, and a Kodak Self Timer. The illustrations accompanying this article are nearly self-explanatory. The plate is drilled at the four corners for the small screws used to fasten it to the side of the camera. Also a hole is drilled in each end into which two halves of the snaps are centered as shown. A drop of solder through the holes on the back of the plate fastens them in position. Before soldering the other halves of the snaps to the timer, remove its plunger, as the heat will injure the leather washer thereon. Solder one of the half snaps on one end of the timer. Put the remaining half snap into one of the sockets on the plate. Fasten the timer to the plate by means of the completed snap. This brings the unsoldered half snap into the exact position in which it must be fastened. It is best to use a very small blowpipe flame in order to avoid any but local heat lest the soldering already done be undone. With the snaps in place but one more part completes the work. Make a contact finger with a hole in one end to fasten under the head of the plunger and bent to conform to the shape of the underside of the head. Unscrew the bulb depressor on the timer, and fit this last-made piece over the screw. Replace the depressor, and all is ready to install on your camera. A few trials will give you the correct place to fasten the plate

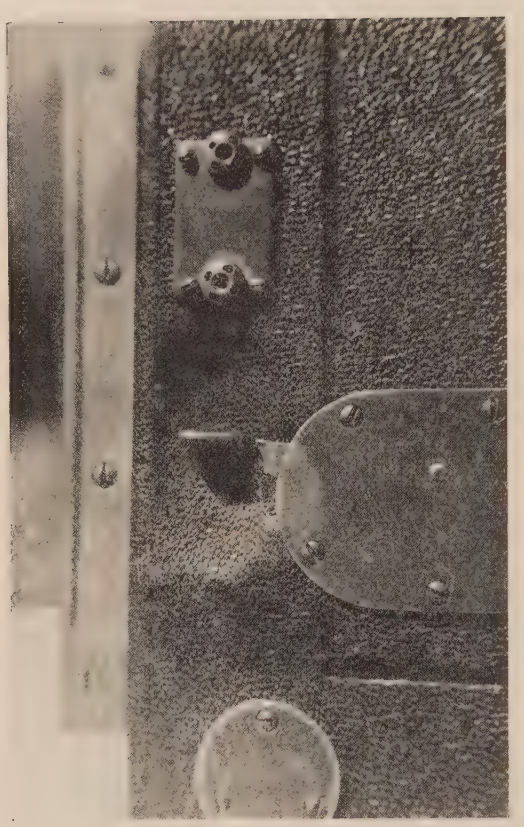


Fig. 2 C. H. Rogers

and also the proper length of your contact finger. This appliance has proven very satisfactory in that the timer is easily snapped into place or removed; the plate is not unsightly, and in action it is all that can be desired. — C. H. Rogers.

Notes and News

Kunst und Photographie. By Karl von Schintling. Guido Hackebeil, Berlin.

Art is one of those subjects on which there may be as many views as there are art writers and these are as the sands of the seashore; each has his own viewpoint. The author opens with a general definition of art, following up with a consideration of the visual angle and sharpness, and the use of a flat surface as a picture. The second section of the book deals with photography, of which the author cannot find much good to say. It is the worst expression of a soulless delineator. Silver printing is hopeless, only the "noble" processes of carbon, gum-bichromate, oil and bromoil and transfer are possible and these pale their ineffectual fires before

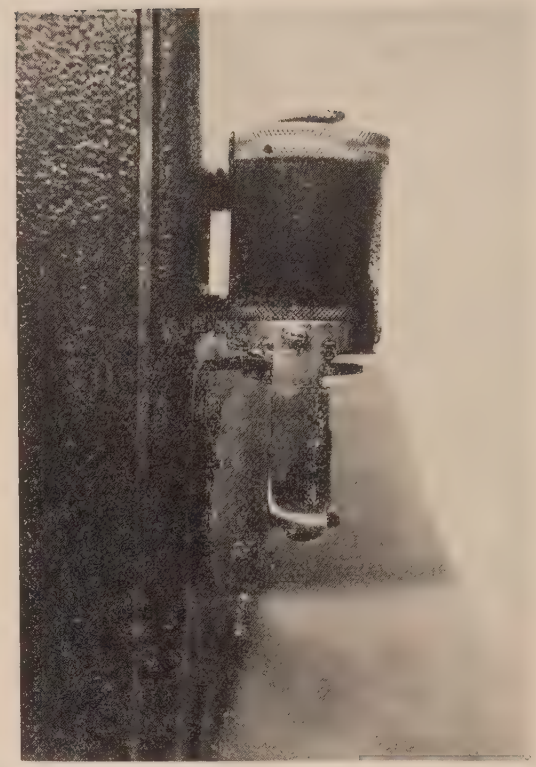


Fig. 3 C. H. Rogers

Quedenfeldt's photo-etching, which is termed the "Contact of the soul with the muscles." This, as is probably well known, is scratching a negative image with a needle thus producing line drawings. There are thirty-one illustrations in half-tone, nine of which are specimens of soulful muscular work and pretty poor stuff at that. — E. J. W.

L'Optique Photographique. By A. Hallut. M. Devaivre, Brussels.

This is a little twenty-page pamphlet on the very elementary principles of optics and the information as far as it goes is sound. — E. J. W.

Die Lithographischen Verfahren und der Offset-Druck. By O. Krüger. F. A. Brockhaus, Leipzig.

In his preface the author disclaims the writing of a textbook. It has been his aim to give a comprehensive sketch of offset printing in such a way that the laity can understand it and obtain a general idea of the process. For this he found it necessary to deal with the older processes of lithography and half-tone, so that the book is practically divided into two sections. Each subject is fully dealt with, particularly offset printing machines, of German make of course, and while no actual working formulas are given it is the best book on the subject that the writer has yet come across. There are 146 illustrations in the text and 21 plates at the end, some in colors. The whole book, text, illustrations and cover were printed by offset, giving one a good idea of the excellent work that can be turned out. — E. J. W.

Schönheit der Technik. By F. Kollman. A. Langer, Munich.

The particular feature of this book is the one hundred and fifty-one photographic illustrations of buildings, bridges, ships, airplanes, locomotives, etc., of German make, which are accompanied with brief textual notes, otherwise it has no photographic interest. — E. J. W.

Abridged Scientific Publications from the Kodak Research Laboratory. Vol. XI, 1927.

This volume brings this valuable publication up to the end of 1927. It gives one only the cream of the numerous papers published by the Laboratory, but as footnotes to the original journals in which the complete papers appeared are given it is easy to refer to these for fuller details if necessary.

Under the joint auspices of the Optical Society of America and the Bureau of Standards there will be an Exhibit of Optical Instruments and Optical Products in the buildings of the Bureau at Washington, D. C. This exhibition will be open from 9.00 to 4.30, October 31, November 1, 2 and 3 and for one evening session to be designated later by the Optical Society. It is considered particularly appropriate that such an exhibit be held at Washington as, in addition to the visiting members of the Optical Society, there is the large group of scientific workers of the Government and institutional scientific establishments who are extensive users of optical instruments in their work and by whom novel applications of optical principles are being developed and applied.

It is the desire of the Committee to include in this exhibit all the newer instruments which have been developed by scientific investigators and our commercial firms. Research workers are particularly invited to contribute exhibits designed to illustrate the progress of their work and their attention is called to the fact that such an exhibit is often more useful than the presentation of a formal paper for emphasizing the significance and importance of an investigation. All American made instruments or products in which the application of optical principles is an important part in design, construction or use, are eligible for exhibition. The following list will serve to partially indicate the contemplated scope of the exhibit: optical and colored glasses, fused silica, optical components, spectacle lenses, ophthalmic instruments, binoculars, microscopes, photographic apparatus, colored photographic processes, motion picture apparatus, astronomical instruments, interferometers, spectral apparatus, meteorological instruments, surveying and nautical instruments, searchlights, telescopic gunsights, photometric apparatus, optical pyrometers, colorimetric instruments, vacuum discharge tubes, special systems of illumination, etc.

Those having appropriate material which they desire to exhibit are cordially invited to correspond for further details relative thereto with I. C. Gardner, Chairman, Committee on Optical Instruments Exhibit, Bureau of Standards, Washington, D. C.

The C. P. Goerz American Optical Co. announces that the Goerz Reflex focuser for Filmo and Victor cameras is now made so that Cooke Standard 4-inch *f*:4.5 and 6-inch *f*:4.5 lenses and Dallmeyer lenses of equal focusing length may be fitted and used as well as all the Goerz lenses from 3 inches up.

The Photographic Section of the Academy of Science and Art of Pittsburgh has elected officers for the coming year as follows: President, Charles K. Archer; Vice-President, David R. Craig; Secretary-Treasurer, Byron H. Chatto. Executive Committee: George H. Morse, O. C. Reiter, P. F. Squier. Associate members of the Pittsburgh Salon elected this year are: Robert A. Barrows, Philadelphia; Ralph B. Bonwit, Baltimore; J. Walter Collinge, Santa Barbara; Fred R. Dapprich, Los Angeles; J. Ortiz Echague, Madrid, Spain; Johan Helders, Ottawa; Alexander Keighley, England; Prof. Rudolf Koppitz, Vienna, Austria; George H. Morse, Pittsburgh; William H. Rittase, Philadelphia; Miss Clara E. Sipprell, New York City.

The annual Salon will be held as usual next spring. The exact date to be announced later. Address communications to the Secretary, B. H. Chatto, 130 Milton Avenue, Pittsburgh, Pa.

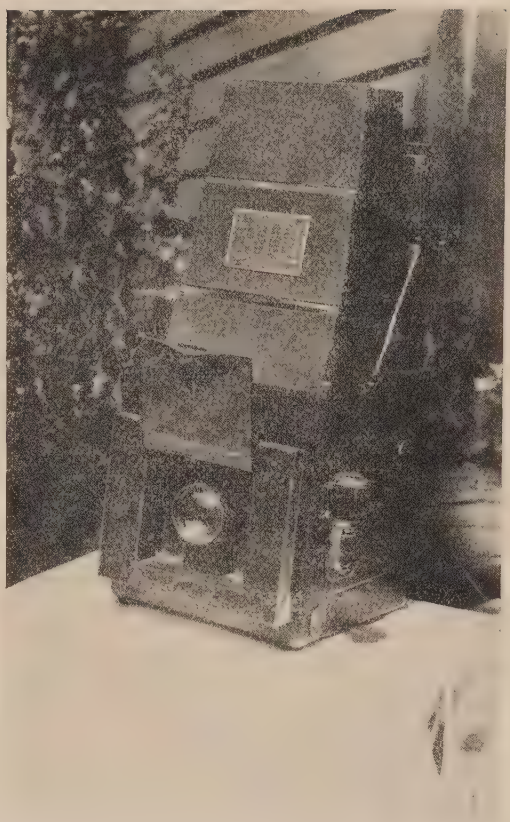


Fig 4 C. H. Rogers

The Société Française de Photographie has awarded its Davanne et Ferrier medal to Frank R. Fraprie, F. R. P. S., editor of American Photography.

Opportunity for members of the Photographic Guild of Philadelphia. The "Foto-Hikers" are off! With their Kodaks, their cameras, their tripods and their what-nots, with a fresh batch of films or plates, the Photographic Guild "Foto-Hikers" are all set to get a wallop at the Isaac Cohen Gold Prize Contest.

At the monthly meeting of the Philadelphia Photographic Guild, held on Monday, May 21, President Frank V. Chambers brought up the subject of getting the club members out into the open by means of Camera Outings. This met with approval and to give

the boys something to shoot at, one of the most loyal supporters of the Club, Mr. Isaac Cohen, offered to give three prizes for the three best pictures submitted to the Print Judging Committee, consisting of Fifteen Dollars, Ten Dollars and Five Dollars, all in gold, to be awarded at the end of the season, about November 1, after all the prints are in the hands of the committee.

Briefly, the plan is this. Camera Outings or "Foto-Hikes" will be arranged every month by an Outing Committee, consisting of W. R. Butler, Chairman, Vincent B. Harris and Joseph A. Sirrocco. They will select the location to be visited and the date. The trips may be weekly, they may be on Saturdays, Sundays or on holidays, the meeting place will be posted on the bulletin board, as will the hour of meeting. Notices will be sent in the mail also, so that everyone will know of it. The Committee will welcome any suggestions from members as to the locations for hikes. When the crowd gets together, they will proceed to the location, accompanied by some advanced worker in photography who will assist each one in getting as good a negative as possible, answering questions regarding exposure, stop, placing of camera, etc., leaving the rest to the individual expression of the maker. The principal requirement being that the pictures be taken while on one of these outings. A general scene will be selected by the leader, and then the "Hikers" can go as far as they like in selecting whatever viewpoint they wish.

Genial Mr. Jackson has offered to go along, provided they don't insist on too much walking. We expect to have other experienced workers, including some of the pictorialists of the city, and much valuable knowledge will be gained from such a method.

All pictorialists, in embryo and well grown, will get some negatives from these trips, from which they will make their contesting prints. For the sake of uniformity, all prints must be 8 x 10 or closely approximating that size, so that all will have an equal chance in that direction. No restrictions as to camera, lens or other apparatus is made, you can use anything from a pinhole to a quartz lens if you wish, you can make your print by any process you wish, printing out or developing paper, bromoil, gum, or straight enlarging.

Each month three prints will be selected and held for the final judging in the fall or early winter, at which time the three best will be awarded the Gold Prizes and three Honorable Mentions will be also awarded, the winning prints to be hung in the Club Salon.

Get out the old shoes and the hiking clothes, dust off the camera, call up Bill and Joe who like to get out into the great open spaces, and get in on the next "Foto-Hike" of the Photographic Guild of Philadelphia. You'll get some good ozone into your lungs, you will be with some good fellows. Come on, fellows, let's go!

Bring a friend on these hikes!

Brooklyn Institute of Arts and Sciences, Photographic Department, Brooklyn, N. Y. C., Officers and Executive Committee for the season of 1928–29: President, J. W. Aughiltree; Vice-President, in charge of educational work, J. Milton Bergen; Vice-President, in charge of technical work, A. Merrell Powers; Secretary, Harry D. Scribner; Treasurer, Edw. D. Mudge; Librarian, Miss Mary Callaghan. Executive Committee: Myers R. Jones, Chairman of the Executive Committee; Alexander S. Ingram, Secretary of the Executive Committee; J. Milton Bergen, Chairman Education and Demonstration Committee; Joseph Petrocelli, Chairman Committee in charge of Craftsmen's meetings; A. Merrell Powers, Chairman Committee in charge of Technical work; Samuel P. Ward, Chairman Annual Exhibition Committee; Walter E. Owen, Chairman Monthly Exhibition and Print Exchange Committee; Charles N. Case, Chairman Membership Committee; Manuel Muniz, Chairman Press Committee; Miss Mary Callaghan, Chairman Library Committee; Harry B. Fisher, Chairman Locker and Apparatus Committee; J. J. Skinner, Chairman Books Committee; Harry A. Neuman, Chairman Outing and Entertainment Committee; H. D. Scribner, Chairman Shipping Committee; Edw. D. Mudge, Chairman Contests Committee. Members Executive Committee at Large: Mrs. Antoinette B. Hervey, V. E. Duroe, Thomas Blake, Joseph Kraysler, H. R. Cremer.

The Elysian Camera Club, of 307 Washington Street, Hoboken, N. J., recently held its annual meeting, re-electing the following members to office to serve for the coming year: Charles Westerburg, President; Martin Crane, Vice-President; George Sting, Treasurer and Recording Secretary; Karl Klokow, Jr., Corresponding Secretary.

In a brief address, President Westerburg thanked the officers and the members of the Club for their cooperation during the past administration and touched upon the progress which the club had made in the course of the year.

Particular attention was drawn to the frequent Print Interchange exhibits conducted by the Associated Camera Clubs of America of which Elysian is a member. These exhibits are representative of the work of many of the foremost pictorialists in America, and President Westerburg remarked the great influence which they have upon the general photographic work of the members.

Many plans for the furtherance of the Club's activities were suggested and discussed, and arrangements were immediately made to put several into effect.

The Elysian Camera Club was organized in 1902 in the interests of the amateur photographer and is fully equipped to do all phases of the amateur work including portraiture, enlarging and lantern slide making. It enjoys the distinction of being the only camera club in Hudson County.

The general public is always welcome to visit the Club rooms and review the exhibits. Amateurs who are experiencing some difficulty in connection with photography are invited to communicate with the club. This entails no obligations.

The Council of the Royal Photographic Society has awarded the Honorary Fellowship of the Society to E. J. Wall, associate editor of AMERICAN PHOTOGRAPHY, for outstanding achievements in photographic literature. The only other American Honorary Fellows are Dr. Mees and Dr. Sheppard for scientific achievements and Alfred Stieglitz for his service to pictorial photography.

In his youth Mr. Wall, like many a school boy, was fascinated by his elementary experiments with test tubes and so selected chemistry as the particular field for his life endeavor. During his student days in 1878 he took a few lessons from a professional photographer in the wet collodion process, which he used for making photomicrographs and soon began to make collodion dry plates and emulsion of his own. After a few years as a practical chemist he joined the staff of B. J. Edwards & Co. of London, who were the first to introduce orthochromatic plates into England. Here he acquired a knowledge of gelatine emulsion making as well as the

coating and sensitizing of albumenized paper, which was then the principal commercial printing process. In 1889 he wrote the "Dictionary of Photography" which is still published under his name, although he has had no connection with it since 1896. He was later one of the authors of Cassell's Cyclopaedia of Photography." From 1889 to 1892 he edited *Photographic Answers*, a monthly journal devoted to the technical side of photography. In the latter year he became editor of *The Amateur Photographer* and translated for serial publication in that journal Volume III of Eder's "Handbuch," dealing with gelatine emulsion making. He also translated Fritz's "Photolithography" and wrote a manual of the carbon process. In 1896 he became editor of *The Photographic News* and instructor in three color work in the London County Council School of Photoengraving. In 1900 he became chemist to the European Blair Camera Co., which specialized in the manufacture of celluloid as well as cinematographic and roll film. While connected with this firm he had a serious accident which kept him on his back for two years. Happily, as he himself says, his brains were not in his legs, so that he was able to keep up his writing and published a translation of König's "Natural Color Photography," which he was particularly qualified to do, as this subject had been his hobby since 1888. He was for many years a member of the staff of *The British Journal of Photography* until he came over to America in 1910 to make celluloid acetate and motion picture film for the Fireproof Film Co. of Rochester. In 1912 he was appointed Professor of Photography at Syracuse University and joined the Technicolor Motion Picture Co. of Boston, specializing in motion pictures in color. Since 1921 he has devoted his time to writing and consulting work on photographic patents and technical problems. From his first coming to America he wrote photographic abstracts, first for AMERICAN PHOTOGRAPHY and later for *Wilson's Photographic Magazine*, returning to AMERICAN PHOTOGRAPHY as a permanent member of the staff when *Wilson's* went out of existence. In recent years he has published "Practical Color Photography," "Photographic Facts and Formulas" and "The History of Three Color Photography," the latter being pronounced by competent judges to be the most thoroughgoing and exhaustive treatment of any photographic subject ever produced in any language. This magnificent volume of 757 pages refers to some 9000 original articles and 3400 patents, and, because of Mr. Wall's practical experience in all phases of the subject, elucidates the majority of the references by comments drawn from personal experiences. He has been a member of the Royal Photographic Society since 1892, a Fellow since 1895 and served for several years as a member of the Council and judge of the technical section of the annual exhibition. He is a Fellow of the Chemical Society of London, a member of the Society of Chemical Industry and the Society of Motion Picture Engineers and an Honorary Fellow of the Boston Y. M. C. Union Camera Club.

Hugo Meyer & Co. have just placed upon the market a camera which is designed in a fashion somewhat different from the usual. As a rule camera manufacturers have built their cameras to suit what they decided were the requirements of the user and then have sought among the available lenses such as would best fit the camera. The Meyer Universal Silar Camera has been designed in another way, for the lens equipment was first decided upon and thereafter the camera was built to get the maximum benefit out of the equipment. It is really a universal camera suitable for all subjects. It is constructed for use under any conceivable condition and is equipped with two lenses, a convertible Plasmat which gives three lenses in one including long, medium and short focus, and a wide angle Aristostigmat covering an angle of almost one hundred degrees. The two lenses are interchangeably mounted in the Compur shutter with a bayonet screw which requires only a quarter turn for locking or unlocking. A light and a medium filter are also included, as well as three German silver plate holders and film pack adapter, and the entire equipment is packed compactly in the camera case.

The New York Institute of Photography, 10 West 33rd Street, New York City, has added to its staff, as the head of the Motion Picture Department, Mr. Eric J. Cederberg.

Mr. Cederberg has been actively engaged in motion picture work for several years, having made a trip around the world for Kinemacolor, filmed the great Indian Durbar and later shot some of the greatest screen successes. His later work includes such favorably known productions as "The King of Kings," "In Old Kentucky" and other outstanding features.

To pictorial workers. The "British Journal Photographic Almanac," which is an annual publication circulating in all parts of the world, includes in each issue examples of pictorial photography, which are very excellently reproduced in photogravure. We are asked to notify our pictorial readers that the Editors of the "Almanac" invite the submission of prints for the 1929 volume. All prints not accepted will be immediately returned. Prints (unmounted) should be marked on the backs with the title and the name and address of the author, and should be sent to the Editors, B. J. Almanac, 24 Wellington Street, Strand, London, W.C.2.

The latest innovation of the Cleveland Photographic Society is the establishment of a Lecture Bureau for the use of clubs, churches, lodges, societies, etc. A corps of ten lecturers, all members of the Cleveland Photographic Society, is maintained, any one of which is available on reasonable notice. These lecturers are equipped to give a list of thirty-three different lectures on subjects of general interest, all illustrated with hand-colored slides and motion pictures. Many of the lectures are free to responsible organizations. It is the ambition of the Cleveland Photographic Society to become the finest photographic organization in the country. Time will tell.

Notice has been officially issued from the Copyright Office of the Library of Congress, Washington, D. C., that the fee for registration of any published work will for the future be $2.00 instead of $1.00 as heretofore. This includes the Copyright Office certificate. For registration of photographs where a certificate is not desired the fee will be $1.00. For dramas, music, lectures and works of art not reproduced in copies for sale, *i. e.*, unpublished, the fee will be $1.00 as heretofore. For registration of renewal of copyright $1.00.

The 1928 Convention of the Photographers Association of New England will be held at the Maplewood Club, Bethlehem, N. H., September 11, 12, 13. A most interesting program of instruction and entertainment including automobile rides, concerts, dances and banquets in one of the most beautiful locations in New England has been arranged. Exhibitors may compete for a number of prizes in many classes. Full information may be had from the Secretary, George H. Hastings, 71 Madison Avenue, Newtonville, Mass.

The Tenth Annual Salon of the Pictorial Photographers in Buffalo will commemorate the fortieth anniversary of the founding of the Buffalo Camera Club and the Albright Gallery has agreed to give the club unlimited space in consequence. The jury of selection will consider six prints from each exhibitor and desires contributors to send the six best prints ever made by them, whether or not they have ever been shown before either at Buffalo or elsewhere. Thus they hope to collect the finest exhibition ever shown in Buffalo. All prints must be on white or very light tone mounts of one of the following sizes: 14 x 17, 18 x 22, 20 x 26 or 24 x 30 inches. The prints will be forwarded to the Pittsburgh Salon after the show is over if so desired.

We have just received from the American School of Photography a complete set of their newly revised course in modern professional photography, consisting of eighty lessons which run, as a rule, from sixteen to thirty-two pages each, together with many illustrations. We have previously gone through parts of this course, but must confess that the amount of material contained in the new revision has surprised us. There seems to be no subject which the professional photographer is likely to need in his business which is not thoroughly handled in these lessons. The question sheets and reviews are penetrating, and insure that the student must thoroughly digest the course in order to get satisfactory marks and be enabled to pursue the subject. In other words, the lessons are sent out in small batches, and not until a student is thoroughly grounded in one set of lessons does he progress to the next. We are quite sure that the student who masters this course will have a technical training sufficient to enable him to run a studio successfully.

FORTHCOMING EXHIBITIONS

Place	Date	Address for Information
The Fifth Midland Salon of Photography. Entries close June 25, 1928. Entry fee 5 shillings.	July 28 to August 25, 1928	Honorable Salon Secretaries, Hallwater Villas, Endon, Stoke-on-Trent, England.
Ottawa Salon. Entries close July 31, 1928.	August 23 to 25, 1928	Central Canada Exhibition Association, City Hall, Ottawa, Ont., Canada.
Thirty-seventh Toronto Salon. Entries close August 1, 1928.	August 24 to Sept. 8, 1928	J. H. Mackay, 2 Gould Street, Toronto 2, Ontario, Canada.
Second Polish Salon, Lwow-Wilno, 1928. Entries close August 1, 1928. Entry fee 5 zloty.	Sept. 2 to 30, 1928, in Lwow October 1 to 31 in Wilno	Société de Photographes, 4 Rue Sokota, Lwow, Poland.
Eighth Annual International Salon. Provincial Exhibition, New Westminster, B. C. Entries close Aug. 18, 1928.	September 3 to 8, 1928	Exhibition Secretary, D. E. Mackenzie, Hart Block, Westminster, B. C.
The Seventy-third International Annual Exhibition of the Royal Photographic Society of Great Britain. Entries close August 17, 1928.	Sept. 17 to Oct. 13, 1928	Secretary, Exhibition Department, Royal Photographic Society, 35 Russell Sq., London, W. C. 1, England.
London Salon of Photography	Sept. 1928	London Salon of Photography, 5a Pall Mall East, London.
XXIIIe Paris Salon. Entries close in Paris, September 1, 1928, in Boston, August 10, 1928. Entry fee 30 francs.	October 6 to 21, 1928	Société Francaise de Photographie, 51 Rue de Clichy, Paris, France, or American Photography, 428 Newbury St., Boston, Mass.
Second Italian Salon, Torino, 1928-VI. Entries close August 31, 1928. Entry fee 25 lire.	October 6 to Nov. 4, 1928	Segreteria del II° "Salon" italiano d'arte fotografica internazionale, Via Carlo Alberto, 24, Torino, Italy.
Second Stockholm Salon. Entries close September 15, 1928. No entry fee.	October 17 to 31, 1928	Ferd Flodin, 19 Stureplan, Stockholm, Sweden.
Fourth Zaragoza Salon. Entries close September 25, 1928. Entry fee, five pesetas.	October 25 to 31, 1928	Secretaria de la Sociedad Fotografica de Zaragoza, calle de la Libertad, 18, entresuelo, Zaragoza, Spain.
Tenth Buffalo Salon. Entries close Nov. 15, 1928. Entry fee $1.00.	January 15 to 27, 1929	E. I. McPhail, Exhibition Director, 528 Elmwood Ave., Buffalo, N. Y.
Third International Salon of the Pictorial Photographers of America.	Spring of 1929	Art Center, 55 East 56th Street, New York, N. Y.

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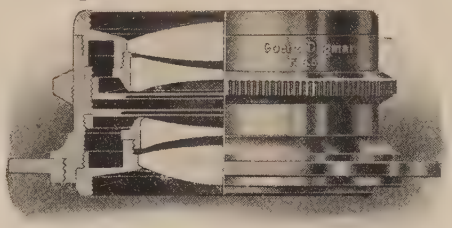

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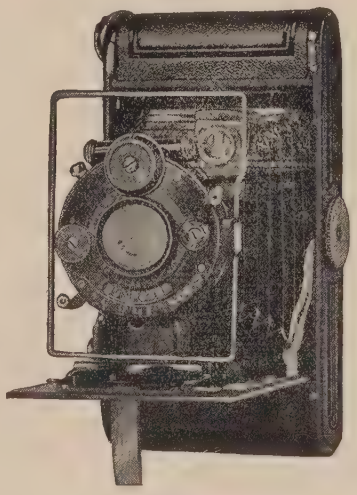

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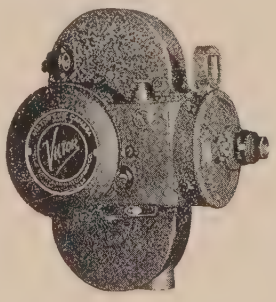

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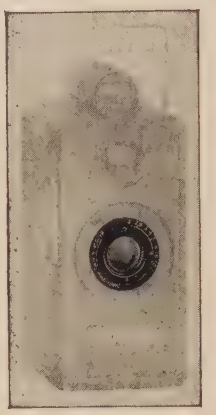

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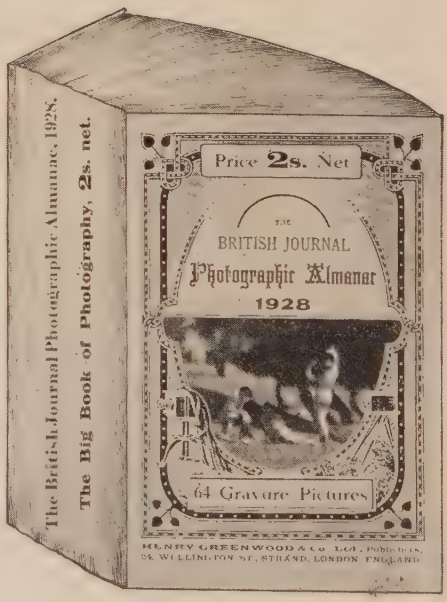

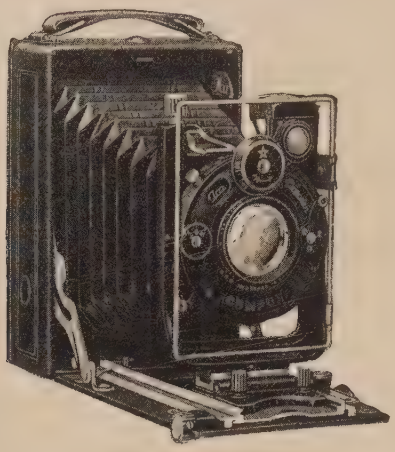

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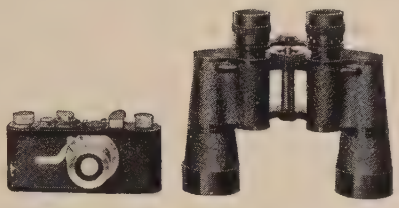

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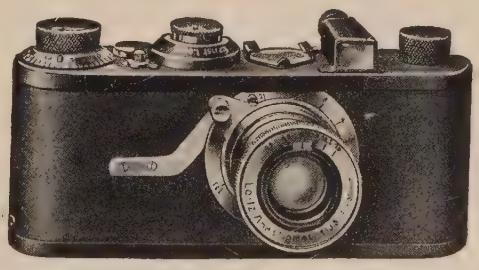

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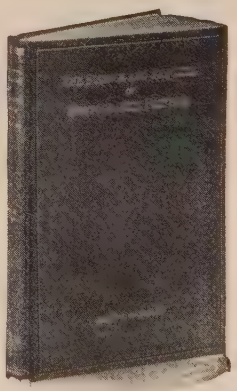

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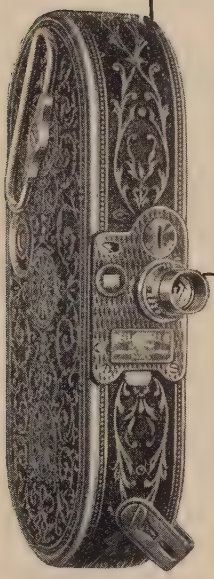

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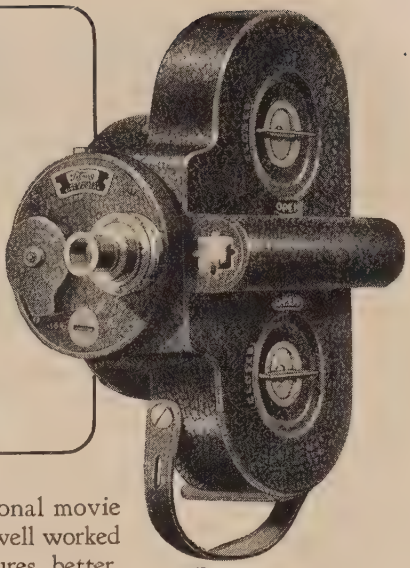

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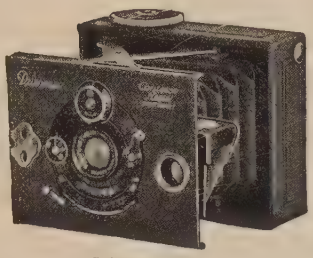

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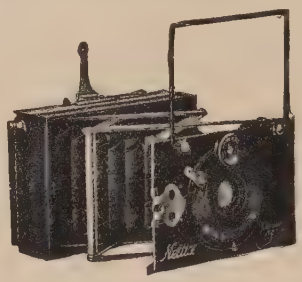

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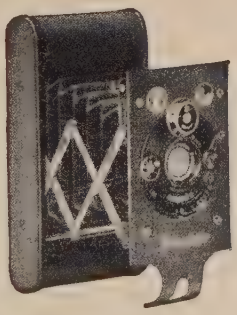

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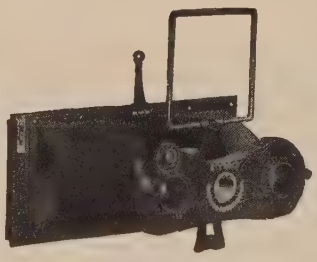

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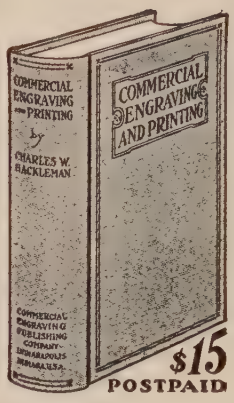

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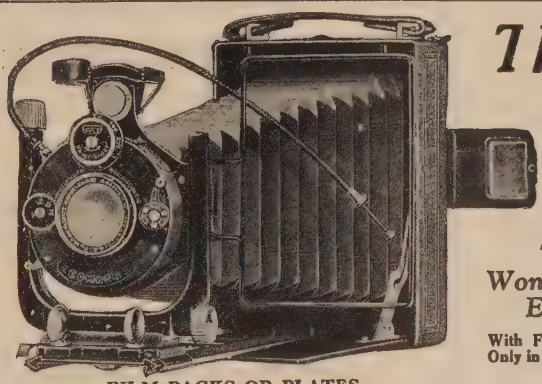

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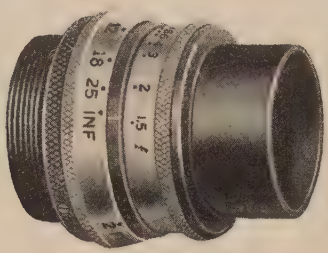

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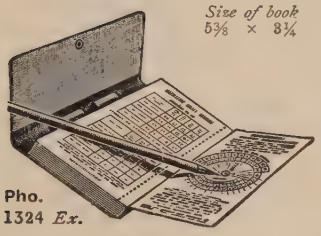

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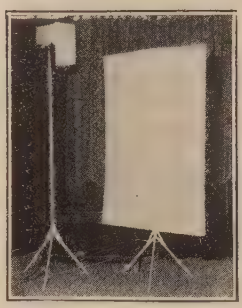

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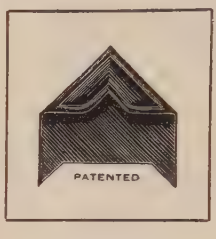
FOR A NAME

ANNOUNCEMENT

Most of the names thus far submitted in our "$100. for a name" contest are new names for Peerless Japanese Transparant Water Colors. We *do not want* a name for our colors —*we want* a name for the NEW liquid sets, a name that is easy to pronounce, easy to remember and one that describes the product. Examples: "Jawaco-Set," "Cine-Set," "Truco-Set," "Rainbow-Set," "Nippon-Set," "Cinewaco-Set," "Kioto-Set," "Nicowaco-Set," etc.

To give all contestants an opportunity of submitting a proper name for our NEW liquid sets we extend the closing date of the contest to Sept. 1st — Submit as many names as you wish, each name on a sheet of paper 3 x 6 inches, together with your name and address — See our NEW liquid sets at your dealer's or write us for descriptive folder.

JAPANESE WATER COLOR CO.
Peerless Bldg. - - - Diamond Place
Rochester, N. Y., U. S. A.



TRADE MARK REG. U.S.PAT.OFFICE.

NUACE

Mounting Corners

"The Best by Every Test"

The NuAce Corner is an artistic device for holding prints, snapshots or post cards in albums or elsewhere. Also used for mounting **Air Mail** and other Philatelic covers. Place one on each corner of print, moisten, and press down. Print is easily removed, if desired. NuAce are very strong; glue is guaranteed.

NuAce are now made in five colors; BLACK, WHITE, GRAY and SEPIA — 100 to package; GOLD 60 to package. Only one style and size.

Price 10c a package
For sale where Photo Goods are sold and at the 5 and 10 Cent Stores

MADE ONLY BY
ACE ART COMPANY
12 GOULD STREET READING, MASS.

HEYDES AKTINO PHOTO METER

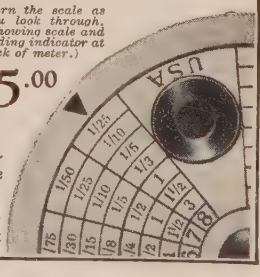
You actually *see* your picture, through the meter, and can judge the varying shadows and color values. The meter instantly shows correct exposure for any diaphragm opening.

Actual size

The new, improved model fits the vest pocket and is specially designed for both exterior and interior use.

Turn the scale as you look through. (Showing scale and sliding indicator at back of meter.)

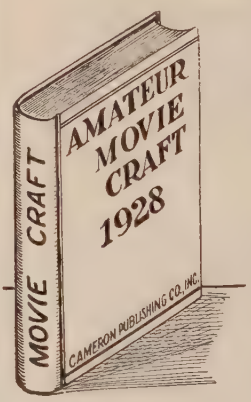
$5.00



At Your Dealer's or by insured post on receipt of price

Herbert & Huesgen Co.
18 East 42nd St., New York

A Book for the Amateur Movie Maker



AMATEUR MOVIE CRAFT

By JAMES R. CAMERON

160 pages crammed full of useful information; makes interesting and instructive reading.

Written for the Amateur who wishes to get that professional touch and finish to his projected pictures.

AT THESE LOW PRICES

In Paper, $1.00 In Cloth, $1.50

Through all dealers, or we shall mail you a copy direct on receipt of price.

Cameron Publishing Company
MANHATTEN BEACH . NEW YORK

and now —

the MEYER UNIVERSAL SILAR CAMERA

a studio in itself ——

One camera for every picture! One camera for both professional and amateur! A camera that is truly universal — the *Meyer Silar Camera.* Take a portrait at home, or a landscape in the country; use it for architectural subjects and use it for interiors, for sport pictures, for newspaper photography, wide angle, telephotography — there isn't any kind of work that it cannot do — and do *well.*

specifications of camera ——

1. *leather-covered body of aluminum alloy.*
2. *triple extension -- rigid even at fullest extension.*
3. *rising and falling front.*
4. *swinging side movement*
5. *tilting lens-board.*
6. *removable lens-board.*
7. *dropping camera bed (for wide angle work.)*
8. *revolving back.*
9. *spring back permits insertion and removal of plate holders without taking off back.*
10. *ground glass and wire finders.*
11. *3 German silver plate holders.*
12. *Film Pack adapter.*
13. *Meyer PLASMAT f:4.5 Triple Convertible Lens Set in Compur Shutter.*
14. *Meyer f:9 Extreme Wide Angle Lens.*
15. *Two Jena Glass Filters.*

the lenses

The lens equipment is expressly selected to obtain the fullest benefit from the many possible movements of this camera; without it more than half the camera's value is lost. The incomparable PLASMAT (formula of Dr. Rudolph) is represented by the f:4.5 TRIPLE CONVERTIBLE SET, really three lenses in one, offer the three different focal lengths of the rear element, the front element and the complete set. With these the full benefit of the long extension on the camera may be obtained for telephotography or any other long focus work.
The MEYER extreme WIDE ANGLE ARISTOSTIGMAT, a fast wide angle lens working at f:9, covers an angle of almost a hundred degrees. It possesses complete spherical, anastigmatic, and chromatic corrections, and its wider aperture makes focusing a simple task. BOTH OF THESE LENSES MAY BE EASILY MOUNTED AND DEMOUNTED BY MEANS OF THE QUARTER TURN THREADS WITH WHICH THE COMPUR SHUTTER IS EQUIPPED.

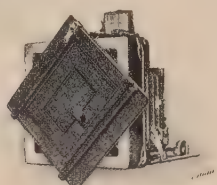
the filters

Two MEYER filters, one light (2x) and one medium (5x), made of special yellow JENA glass expressly designed to cut down the blue rays alone, are included in the equipment. The camera lenses, and filters, are packed in a black leather case with shoulder strap. With this outfit beside you, you are prepared for any picture.

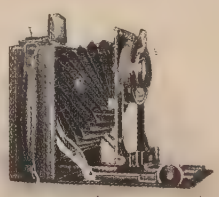
the cost *equipped with*

	front element	The 4.5 Plasmat back element	Set focus complete lens	*and* The *f*-9 Wide Angle Aristostigmat focus	Price complete outfit
9x12cm.	$12\frac{5}{8}$	$8\frac{5}{8}$	6	$3\frac{1}{8}$	$200
10x15 "	$14\frac{1}{4}$	$9\frac{7}{8}$	$6\frac{3}{4}$	$4\frac{1}{8}$	235
13x18 "	$18\frac{1}{2}$	$12\frac{5}{8}$	$8\frac{3}{4}$	$4\frac{3}{4}$	300

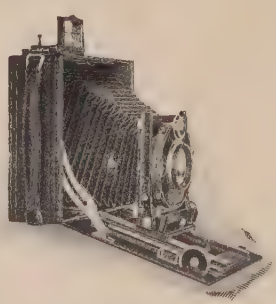
Triple extension permits you to use your Plasmat Lens set to maximum advantage.



Revolving back simplifies placing of picture on film.



Rising and falling front, tilting lens board, permit innumerable adjustments.

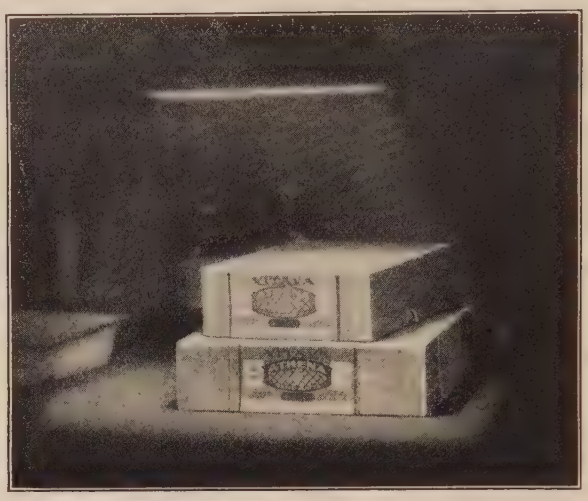


Dropping camera bed — a necessity in wide angle work.

Hugo Meyer & Co.

105 West 40th Street, New York

Works at Goerlitz, Germany



The Customer Buys a Print

When you make a portrait, the final analysis of the result you produce is determined by the prints you deliver to your customer. The greatest importance should be attached to the quality of the paper you use.

The various brands of Vitava Papers produce the finest possible print results with consistent uniformity. The newest of these papers—Athena *Old Ivory*—yields beautiful and brilliant, warm brown prints by direct development, eliminating the necessity for toning. Sample print and instructions sent on request.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

A New Graflex

Revolving Back

GRAFLEX

Series D

3¼ x 4¼—4 x 5

Here is a truly "all purpose" Graflex, incorporating all the distinctive Graflex features, plus special appointments, such as an automatic lens shield, a supplementary focusing scale.

This new Graflex will appeal to the professional and the amateur, to the advanced worker as well as to the novice.

Equipped with the fast Kodak Anastigmat *f*.4.5 lens, the 3¼ x 4¼ Series D sells for $131, the 4 x 5 size for $150.

See the Series D at your dealer's

EASTMAN KODAK COMPANY

ROCHESTER, N. Y.

Graflex cameras are now made by The Folmer Graflex Corporation.

A versatile powdered developer

Eastman Special Developer

Here is a developer that can be used on films or plates, Velox or other developing-out papers. Just dissolve the powders in water and you have as good a developer as can be found for use—without alteration—for these three sensitized materials.

Eastman Special Developer (package of 5 tubes) . . *35c*

A favorite liquid developer

Nepera Solution

If you prefer a developer that comes in liquid form, try this well-known Eastman compound.

For use with Velox or bromide papers simply add water to the solution as directed on the package. For developing plate or film negatives supplement the solution with Nepera Auxiliary Powders.

Nepera Solution is extremely easy to use in its original form. And, when aided by the powders, it is an exceptionally good all-around developer.

Nepera Solution (4-ounce bottle) *28c*
Nepera Solution (16-ounce bottle) *84c*
Nepera Auxiliary Powders (carton of 12 powders) . . . *35c*

EASTMAN KODAK COMPANY
ROCHESTER, N. Y., *The Kodak City*

At your dealer's

No need now to WAIT *for* Sunshine

Even on Cloudy Days you can get good, clear Snapshots with the Modern Kodak

HAVE you ever been all ready to click the shutter and then seen a cloud suddenly cover the sun? How many times do you discover your children, or friends, in poses that just cry for a snapshot, only to realize that it's too early in the morning, or too late in the afternoon, or that the weather's too dull and cloudy to permit a good result?

Much faster lenses now supplied

You no longer need put up with these disappointments. The Modern Kodak contains many important improvements, chief among them the increased speed of the lens on models of moderate price. Now you are able to make excellent snapshots under light conditions that heretofore have spelled failure.

One instance is the lens of the $20 1A Pocket Kodak. To get that lens in 1925 you would have had to buy a $40 camera.

Simpler than ever, more convenient, too

We urge you to examine one of the new Kodaks. Note how smoothly and easily you pull out the lens and how quickly you set your focus. Then look at the Exposure Guide which you will find on many of the Modern Kodaks. Convenient, below the lens, are specific instructions as to the correct speed and lens opening. Chances for error are greatly reduced and no time is lost.

These improvements are due to constant study by Eastman scientists. They have made Kodak Film —in the familiar yellow box— dependably uniform. It has speed and wide latitude. Which simply means that it reduces the danger of under- and over- exposure. *It gets the picture.*

EASTMAN KODAK COMPANY, Rochester, N. Y.

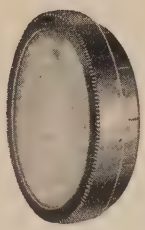
The film which you know
for its constant high quality

Today — tomorrow — on vacation — whenever you make pictures you want *good* ones. Picture chances don't repeat. Whenever they come you want film that gives you every advantage of speed and latitude —film upon which you and your finisher can depend every time.

Insist on Kodak Film in the familiar yellow box —the kind you have always used — the kind which you know for its constant high quality. *It's the film that gets the picture.*

EASTMAN KODAK COMPANY
ROCHESTER, N. Y., *The Kodak City*

Kodak Sky Filter
$.75 to $1.50



Kodak Pictorial Diffusion Disk. For Kodaks, $1.75, $2.50; for Graflex cameras, $5.00, $6.00

Increase the effectiveness of your summer pictures with these simple Eastman accessories

A STATELY building, a marine sunset —a dreamy landscape, a vista capped with tumbling clouds—these picture chances are easy to transfer to the leaves of your album or the walls of your home. But to make the *most* of them, have at hand the two little attachments shown above.

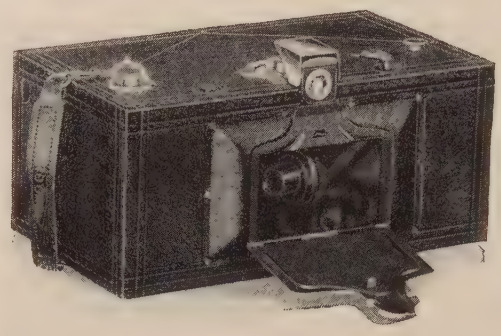
The Kodak Sky Filter cuts down the light from bright skies and helps to register cloud effects that would otherwise be lost.

The Kodak Pictorial Diffusion Disk *diffuses* the light that reaches the lens. It reduces harsh contrasts, lends softness and atmosphere to the scene.

Get these two Eastman accessories for your next picture trip.

EASTMAN KODAK COMPANY

ROCHESTER, N. Y., *The Kodak City*



No. 3A Panoram Kodak

Pictures 3¼ x 10⅜

DO YOU know the advantages of this unusual Kodak? If not, see it at your dealer's. You'll be interested in its clever construction—and in the wide vista it opens for pictures of the unusual kind.

For No. 3A Panoram is the Kodak with the roving eye. As your own eye would sweep a broad landscape, so the lens of this Kodak swings through an arc of 120 degrees to get in the whole view. Spreading mountain ranges, large groups of people, all-inclusive wide pictures of every kind are easy. And, held vertically, the Panoram makes fine views of lofty waterfalls, deep canyons. Get acquainted with it today. Price $40.

Kodak Carrying Cases

Wherever you go to make pictures, you need one of these sturdy protectors for your camera. From the little Vest Pocket cases to the capacious Panoram carrier illustrated, Kodak Carrying Cases are known for their ability to ward off hard knocks, for their convenience—and for their fine appearance.

Call on your Kodak dealer today and select your carrying case. Prices, $.75 and up.

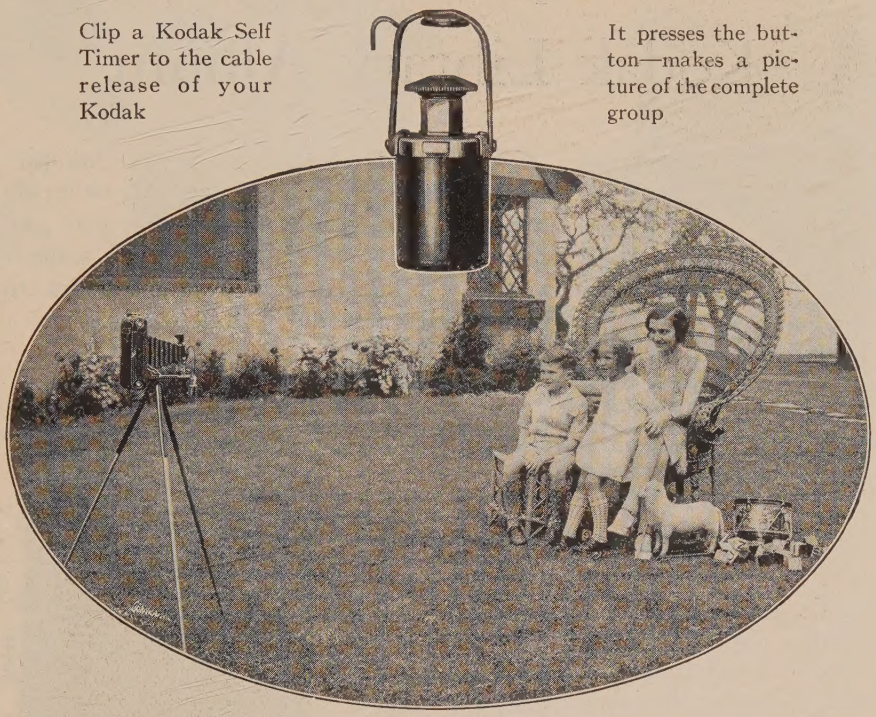
EASTMAN KODAK COMPANY

ROCHESTER, N. Y., *The Kodak City*

You too can make your Kodak automatic with this clever little device

Clip a Kodak Self Timer to the cable release of your Kodak

It presses the button—makes a picture of the complete group



SISTER could have made a picture of Bob and Jean in the ordinary way. But all three wanted a *complete* picture. They wanted all those present accounted for when the print reached the album.

And so Sister simply clipped a Kodak Self Timer to her Kodak's cable release and focused on the big chair. Bob wanted a hand in the proceedings—he depressed the plunger of the Timer and took his place with the rest. *Click*—the Timer tripped the shutter and made the picture.

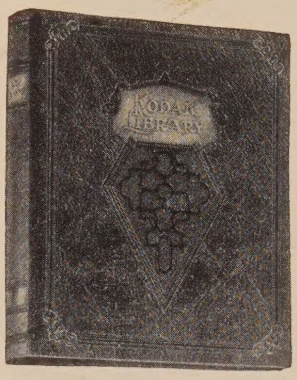
You too can make your Kodak automatic with this clever little Eastman device. It's fun making these complete pictures, but that's only half the story. Such pictures are doubly valuable in years to come. And the cost is negligible—the Kodak Self Timer sells for only $1.25 at any Kodak dealer's.

EASTMAN KODAK COMPANY

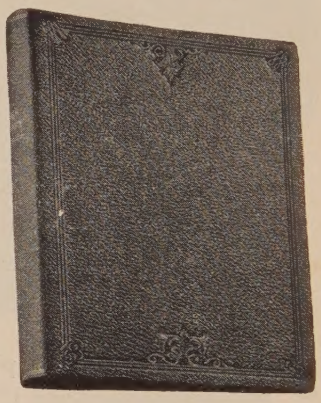
ROCHESTER, N. Y., *The Kodak City*

The modern family album for personally made pictures

Kodak Library Album



GATHER up your choice Kodak pictures—they're too precious to let lie around loose. Put them where you can show them to advantage at any time—where you can enjoy them in years to come—into a Kodak Library Album.



Two styles are available in this modern family album for personally made pictures. The *de luxe* imitation leather edition (above) has a beautifully colored and embossed cover. It's an ornament for any table, a fit companion for other fine volumes on your bookshelf. The genuine black leather edition is more subdued in appearance, but undeniably aristocratic. The tasteful pressed-in design and the simple gold lettering of the name "Kodak Library" on the rounded back bespeak quality, dignity—and of course the finish means durability beyond question.

Begin now to use a Kodak Library Album for the pictures you already have. And have one ready for every addition to your personal picture record.

De luxe Imitation Leather Edition, $2.50 Genuine Leather Edition, $3.25

EASTMAN KODAK COMPANY

ROCHESTER, N. Y., *The Kodak City*

At your dealer's

Ciné-Kodak

Simplest of All Home Movie Cameras

No extra charge for developing Ciné-Kodak film

A built-in exposure guide is a feature of the Ciné-Kodak

How wonderful it would be if you could live these days again in movies

SUPPOSE *you* had movies of your younger DAYS

YOU meet a friend of your earlier days, one you haven't seen for perhaps twenty years. "Do you remember . . . ?" he asks, and you're off! One reminiscence after the other. How you enjoy it, yet what a shame that so many of those thrilling experiences of boyhood have faded out of both your minds.

But suppose your friend had said this: "Come over and see me this evening and I'll show you some movies of our good times together." Would you accept? Why, you'd let nothing stop you. And there on your friend's own silver screen, you'd see yourself as you were twenty years before. The scenes of your boyhood would be there before you and many a long-forgotten face would smile straight at you across the years.

It is too late now to take pictures of your childhood days but don't let your youngsters grow up without some pictures of theirs.

Thousands of Ciné-Kodak users are now taking movies of their boys and girls with that very idea in mind. Difficult to do? Not a bit of it; home movies are now as easy to take as snapshots. Unbiased by the precedents and prejudices of professional cinema camera design, the men who made still photography so easy have now made home movie making equally simple for you. The result is that the Ciné-Kodak is the simplest home movie camera.

Stop in at your Ciné-Kodak dealer's and ask him to tell you about the Ciné-Kodak. Send coupon below for free booklet.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

Please send me FREE and without obligation, the booklet telling me how I can easily make my own movies.

Name .....

Address .....

You can point with pride to prints on

VELOX

The choice of four surfaces which Velox gives you, the four degrees of contrast it offers, the care with which it is manufactured—these Velox factors yield the best prints any negative affords—prints to which you can point with pride.

Get the benefit of this Eastman paper in all of your pictures. Specify Velox prints at your finishers, and look for the name tinted on the back.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y., *The Kodak City*

SO-AUR-935